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# THE ASIAN DEVELOPMENT BANK: ASIA'S FUTURE CLIMATE BANK?

## HOW THE ASIAN DEVELOPMENT BANK CAN ALIGN WITH THE PARIS AGREEMENT IN INDONESIA, VIETNAM AND THE PHILIPPINES

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## Executive summary

The Asian Development Bank (ADB) has the potential to become Asia's 'climate bank'. The institution could and should become a driving force of climate-resilient, low-carbon sustainable development in the Asia-Pacific. The ADB has already achieved a considerable amount on all these fronts, but more is required to meet the climate challenge. This report examines how the ADB can align with the Paris Agreement on climate change, focusing on the South East Asian countries of Indonesia, Vietnam and the Philippines in particular.

Like all the major multilateral development banks (MDBs), the ADB has committed to aligning its operations with the Paris Agreement, including the goal of holding global temperature rise to well below 2°C and pursuing efforts to limit this to 1.5°C. Translating this global objective into new policies at the ADB, consistent with the joint MDB framework for alignment with the Paris Agreement, is the next step in this process.

This briefing makes a series of recommendations for how the ADB could align its operations and its energy policy with the Paris Agreement in the context of South East Asia. As growing demand for energy is at the core of the mitigation challenge in South East Asia, energy and related infrastructure is therefore a key focus of this report.

### Top three recommendations for the Asian Development Bank

1. The Asian Development Bank should use the forthcoming energy policy review to set a target date for **100% of its energy lending to be to zero carbon** energy projects, phasing out lending to unabated fossil-related projects.
2. The ADB needs to **make energy efficiency an infrastructure priority** and should consider setting a specific energy efficiency lending target.
3. The Asian Development Bank should be more specific about how it is going to support countries in implementing and raising the ambition of **Nationally Determined Contributions** under the Paris Agreement.

The ADB's ongoing energy policy review, due to be published in 2020, represents a key opportunity to embed transformational change within the Bank's energy-related operations and lending. The ADB's energy policy was last reviewed ten years ago in 2009; the new policy may be in place until 2030. It is critical that the next energy policy secures alignment with the Paris Agreement and triggers change at all levels of the ADB's management and operations.



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Another opportunity is that of new leadership. ADB President Takehiko Nakao's term is due to end in November 2021. Under President Nakao's tenure, the Bank has grown and been reformed to have a greater focus on inclusive and sustainable development. It is essential that his successor continues this and ensures that the ADB achieves full alignment with the Paris Agreement and assumes the role of a 'climate bank' for Asia. As institutions responsible for the use of public capital, MDBs have a responsibility to constantly re-assess their activities to ensure they are using this money in the public's interests.

This paper recommends that the ADB set new and ambitious targets for 100% zero carbon energy lending and energy efficiency. The Bank should increase its climate finance target and revise its definition of clean energy to exclude natural gas in light of climate change concerns. The ADB country-level strategies should be used as a key area for ensuring Paris alignment, and the bank should also prioritise the use of guarantees over loans in order to maximise mobilisation of private capital.

The paper is focused on South East Asia, and in particular the countries of Indonesia, Vietnam and the Philippines, because these countries face exceptional risks of carbon lock-in that endanger the goals of the Paris Agreement, as well as significant untapped zero carbon energy and emissions reduction potential. It is critical to the global climate challenge that the Asian Development Bank fulfil the role of a 'climate bank' for South East Asia.

To date, ADB activities have already supported many low-carbon projects across South East Asia, including in Indonesia, Vietnam and the Philippines. The ADB has issued and promoted green bonds, financed renewable developments, developed risk mitigation products and supported energy efficiency demonstration projects. While the ADB alone cannot ensure Paris alignment across South East Asia, it can help to ensure countries are on pathways to deep decarbonisation and help re-orient the private and public sectors toward such a trajectory. It can also ensure that its own operations 'do no harm' to the Paris Agreement's global temperature goal.

There is considerable scope for learning from other multilateral and bilateral development institutions and replicating successes from other parts of the world in an Asian context. The multilateral development banks are already working together to build a joint approach to alignment with the Paris Agreement, and sharing best practice is part of this process. This report looks in detail at two such examples of best practice—one on energy efficiency and one on microfinance—and lists more than two dozen other initiatives that might serve as sources of inspiration.

This paper is intended as a contribution to the ADB's ongoing work on alignment with the Paris Agreement, the bank's forthcoming energy policy review and the ADB's evolving country-level work in Indonesia, Vietnam and the Philippines. Many of the

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recommendations are also relevant to other MDBs. We look forward to continuing to work with the Bank and its stakeholders to achieve the vision of the ADB becoming Asia's 'climate bank'.

## Recommendations for becoming Asia's climate bank

The ADB has the potential to play a decisive role in the transition to a low-carbon, climate-resilient economy in South East Asia and beyond. As institutions responsible for the use of public capital, MDBs have a responsibility to constantly re-assess their activities to ensure they are using this money in the public's interests. In order to accomplish alignment with the Paris Agreement, and help deliver future-proofed sustainable development, the ADB should consider the recommendations outlined in this section. These are based on the evidence and research set out in this report.

These recommendations are largely focused on the energy sector, with some relevance for the transport and buildings sectors. For a more comprehensive examination of alignment with the mitigation and adaptation goals of the Paris Agreement, further research and recommendations will be needed, addressing the ADB's activities in other sectors relevant to climate change, such as agriculture, land use and water.

This paper's recommendations fall into the following broad categories:

- > targets and commitments
- > energy efficiency
- > country-level work
- > financial instruments

*Recommendations on targets and commitments:*

- > The Asian Development Bank should use the forthcoming energy policy review to set a target date for 100% of its energy lending to be to **zero carbon energy** projects, phasing out lending to unabated fossil-related projects. This should also involve a stricter screening process for proposed projects. The bank's energy policy should also be reviewed more frequently e.g. every five years rather than the current 10 years.
- > The Asian Development Bank needs to change the definition of and set a significantly more ambitious target on **clean energy** investment. This target currently includes natural gas as a type of 'clean energy', which is misleading. This needs to be removed. In order to assist with this transparency, the ADB should also in future consider disclosing against the EU's so-called taxonomy



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of sustainable investments, which is being designed to have a global scope.<sup>1</sup> It should set a target date for its whole portfolio to be screened against ‘do no significant harm’ criteria on climate change.

- > The Bank’s **climate finance** target of USD 6 billion per year should be significantly raised in light of the Paris Agreement. As the first MDB to set a target to peak portfolio emissions by 2030<sup>2</sup> - an example of good practice among the major MDBs – the Bank should also report on progress on this on an annual basis.

*Recommendations on energy efficiency:*

- > The ADB needs to **make energy efficiency an infrastructure priority** and should consider setting a specific energy efficiency lending target. The bank has already implemented a range of energy efficiency projects, and this activity now needs to be scaled up given growing energy demand and high energy intensity in the region. The ADB has an important role to play in breaking the link between economic growth and rising energy demand. Energy efficiency should be made a core part of the upcoming review of the ADB’s energy policy.
- > The ADB should seek to learn from **best practice from other MDBs** around the world, such as the European Bank for Reconstruction and Development (EBRD) which has had success with energy efficiency programmes. The Bank should also continue<sup>3</sup> and increase its promotion of the Energy Service Company (ESCO) model for energy efficiency financing.
- > More **transparency** is needed in project level reporting on energy efficiency, especially given the statement that ADB energy efficiency lending was higher than renewables in 2015<sup>4</sup>. More information is needed on the definition of energy efficiency within the bank.

*Recommendations on country-level work:*

- > The Asian Development Bank should be more specific about how it is going to support countries in implementing and raising the ambition of **Nationally Determined Contributions (NDCs)** under the Paris Agreement.
- > The Asian Development Bank should **align with the Paris Agreement’s global mitigation goals by** seeking to bring Country Partnership Strategies in line not

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<sup>1</sup> The EU’s so-called taxonomy is currently in the process of being drawn up by the European Commission. More information on the legislation underpinning this can be found in European Commission (2018) [Proposal for a regulation on the establishment of a framework to facilitate sustainable investment](#) and on the [European Commission website](#).

<sup>2</sup> ADB (2017) [Climate change operational framework 2017-2030](#)

<sup>3</sup> ADB (2016) [India: demand side energy efficiency investment project](#)

<sup>4</sup> ADB (2016) [2015 CLEAN ENERGY INVESTMENTS PROJECT SUMMARIES](#)



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just with NDCs but with a Paris-aligned pathway to well below 2°C and pursuing efforts toward 1.5°C. Long-term decarbonisation planning and the phase out of fossil fuels needs to become part of the Country Partnership Strategies<sup>5</sup>. This has already been done to some extent with Vietnam<sup>6</sup>. A similar goal should be incorporated in the Country Partnership Strategies for Indonesia and the Philippines.

- > The general Country Partnership Strategy guidelines<sup>7</sup>, which were last revised in 2015<sup>8</sup>, need to be updated to take into account the ADB's **Climate Change Operational Framework**<sup>9</sup> and Strategy 2030. At present the guidelines make only one minor reference to climate. This is part of ensuring that climate change is mainstreamed in every part of the bank's operations.
- > In its dealings with finance ministries in Vietnam and Indonesia, the ADB should encourage these ministries to join the **Coalition of Finance Ministers for Climate Action**<sup>10</sup>, as the Philippines has already done. Equally, it should encourage central banks in the region to join the Network for Greening the Financial System<sup>11</sup>.
- > The development banks should support initiatives on sustainable finance in the region such as **Indonesia's Sustainable Finance Initiative and the Asia Sustainable Finance Initiative**. This should be used as an opportunity to integrate climate risks and opportunities into the sustainable finance agenda.

*Recommendations on financial instruments:*

- > The ADB should increase its use of **guarantees** as these have greater potential to mobilise private finance. The bank could also provide support to local banks in developing re-financing mechanisms in local currencies so they can provide long-term climate-related finance.
- > The ADB should increase the support it gives to countries as regards climate risk management through innovative climate risk **insurance and microinsurance** schemes.
- > The ADB and other MDBs in the region should increase the use of **green or climate bonds** as a tool for unlocking more climate finance.

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<sup>5</sup> Climate Policy Initiative (2018) **Deep decarbonisation by 2050**

<sup>6</sup> ADB (2017) **Pathways to low carbon development in Vietnam**

<sup>7</sup> **ADB (2007) CPS guidelines**

<sup>8</sup> ADB (2015) **Reforming the Country Partnership Strategy**

<sup>9</sup> **ADB (2017) Climate Change Operational Framework**

<sup>10</sup> CAPE (2019) **Coalition of Finance Ministers for Climate Action**

<sup>11</sup> Website: **Network for Greening the Financial System**.



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These recommendations will be submitted as part of the ADB's feedback process on its Strategy 2030 operational priorities<sup>12</sup>.

## Background

### Infrastructure and energy finance in South East Asia

South East Asia faces a substantial challenge in terms of decarbonisation, growing energy demand, and energy infrastructure finance.

The region is going through a period of accelerated infrastructure investment and construction. Total infrastructure investment in South East Asia between 2016-2030 is expected to be at least USD 2.7 trillion<sup>13</sup>. The investment opportunity of a shift to sustainable low-carbon economies across Asia is estimated to be as much as double that<sup>14</sup>.

Public sector finance is dominant in sustainable energy and infrastructure in the region. It is estimated that 92% of infrastructure to date has been reliant on public sector funding<sup>15</sup>. According to UN Environment, 75% of green finance flows in the South East Asia region come from the public sector<sup>16</sup>.

The region is experiencing rapid economic growth and increasing energy demand. According to the International Agency Energy (IEA), energy demand in South East Asia is growing at one of the fastest rates in the world with an estimated 66% increase in energy demand by 2040<sup>17</sup>.

There are differing levels of market liberalisation in the power generation sector across the region. The Philippines has a fully privatised electricity market, whereas Vietnam<sup>18</sup> and Indonesia<sup>19</sup> do not. This is partly why the ADB has not made a sovereign loan to the Philippines in the energy sector since 2012<sup>20</sup>.

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<sup>12</sup> ADB (2019) **Overview of seven operational plans**

<sup>13</sup> Making this climate resilient the region is going to need approximately US\$ 0.4 trillion more for the same period, this represents 5.7% of GDP. Infrastructure is defined as transport, power, telecommunications, water supply and sanitation. ADB (2017). From: ADB (2017) **Meeting Asia's Infrastructure Needs**

<sup>14</sup> WWF (2018) **New sustainable finance initiative launched in Asia**

<sup>15</sup> ADB (2017) **Meeting Asia's Infrastructure Needs**

<sup>16</sup> UNEP and DBS (2017) **Green Finance Opportunities in ASEAN**

<sup>17</sup> IEA (2017) **South-East Asia Energy Outlook 2017**

<sup>18</sup> **Engerati (2017) Transforming Asia's energy sector**

<sup>19</sup> Indonesia did attempt to enact power sector privatization in 2002 with ADB assistance, but this was overturned in 2004 by the constitutional court. Information on Indonesia's electricity market design was taken from PwC (2017) **Powering the nation: Indonesia power industry survey**.

<sup>20</sup> Information provided to E3G by ADB staff indicated that 90% of this loan was subsequently cancelled. Note also that the ADB's Power Sector Development Program ended and was evaluated in 2020: ADB (2012) **Philippines: Power Sector Development Programme**.

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Electricity prices in Indonesia<sup>21</sup> and Vietnam<sup>22</sup> are on the increase, although in the latter country prices are set centrally by the government. The Philippines already has relatively high power prices when compared to the rest of the Asia region.

Local commercial banks in the Philippines (and to a lesser extent Vietnam) have been shown to be relatively liquid and have on occasion been able to provide good access to finance and competitive long tenor finance to renewable Independent Power Producers in local currency. Indeed, in the Philippines 33% of solar investment and 26% of wind investment came from commercial banks, with much of the rest coming from private equity and utilities<sup>23</sup>. This is a welcome trend and should be encouraged by MDBs. However, there is a different picture in Indonesia, with short to medium loan tenors and relatively high interest rates. Project finance in Indonesia is not widely available. This is a barrier to infrastructure investment in the country.<sup>24</sup>

#### **Fossil fuel infrastructure and finance in the region**

There is global concern with regards fossil fuel development in South East Asia. Former World Bank President Jim Yong Kim warned in 2016 that “if the entire [South East Asia] region implements the coal-based plans right now, I think we are finished”<sup>25</sup>. Fatih Birol, the Executive Director of the IEA, has also said that the growth of coal-fired power in Asia is concerning because the new plants would “lock in the emissions trajectory of the world, full stop” and that “how we are going to deal with this problem is for me the nerve centre of the climate change debate today”<sup>26</sup>.

Analysis by the International Energy Agency (IEA) concludes that OECD countries need to cease the use of coal power generation by around 2030, with non-OECD countries needing to quit coal by 2050 at the latest, to enable the global energy sector to reach net-zero emissions by around 2050 in line with the Paris Agreement goals. According to the IEA, in a below 2°C scenario, the ASEAN power sector needs to become carbon-neutral by 2050 (Figure 1).<sup>27</sup>

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<sup>21</sup> PwC (2017) **Powering the nation: Indonesia power industry survey**

<sup>22</sup> Reuters (2018) **Vietnam hikes electricity prices**

<sup>23</sup> **BNEF (2019) Clean Technology Fund and concessional finance**

<sup>24</sup> The market-level information in this paragraph was provided to E3G in exchanges with ADB staff.

<sup>25</sup> Climate Home News (2016) **World Bank: Asia coal power plant plans are ‘disaster for climate’**

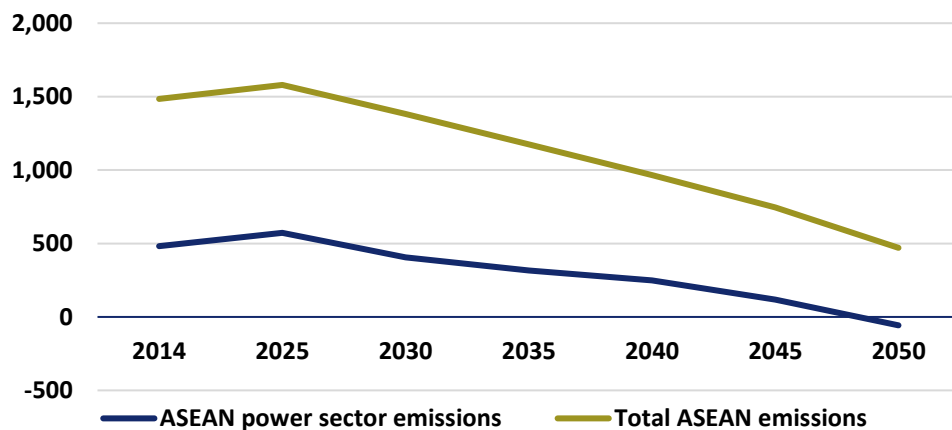
<sup>26</sup> Financial Times (2018) **New Asian coal plants knock climate goals off course**

<sup>27</sup> IEA (2017) **Energy Technology Perspectives 2017**

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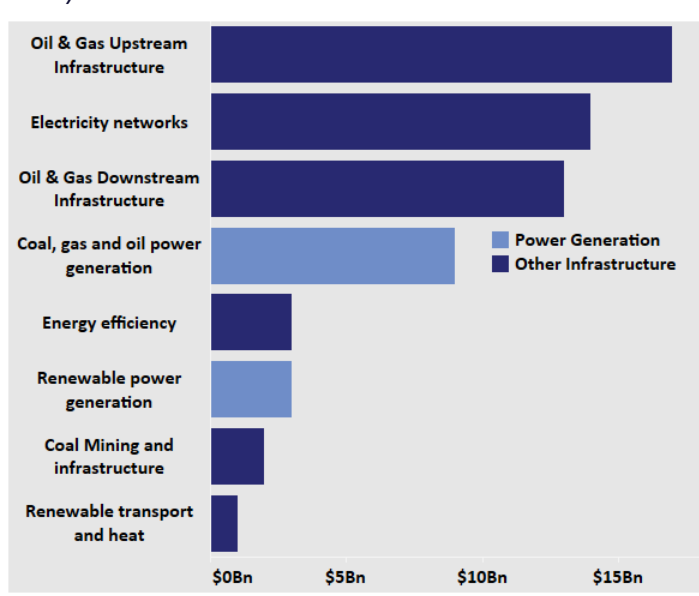
Figure 1: ASEAN total and power sector CO<sub>2</sub> emissions in a below 2C scenario (Mt CO<sub>2</sub>).



Source: IEA B2DS (ETP 2017)

At present there are significant financial flows going towards oil and gas upstream and downstream infrastructure and fossil fuel fired power stations<sup>28</sup>. Figure 2 shows the relative size of different categories of fossil fuel and renewable investment in the region, with much more money going into fossil fuels than clean energy. These trends need to be reversed to peak energy sector emissions in the region.

Figure 2: Energy investment by infrastructure type in South East Asia (USD [2017] billion)



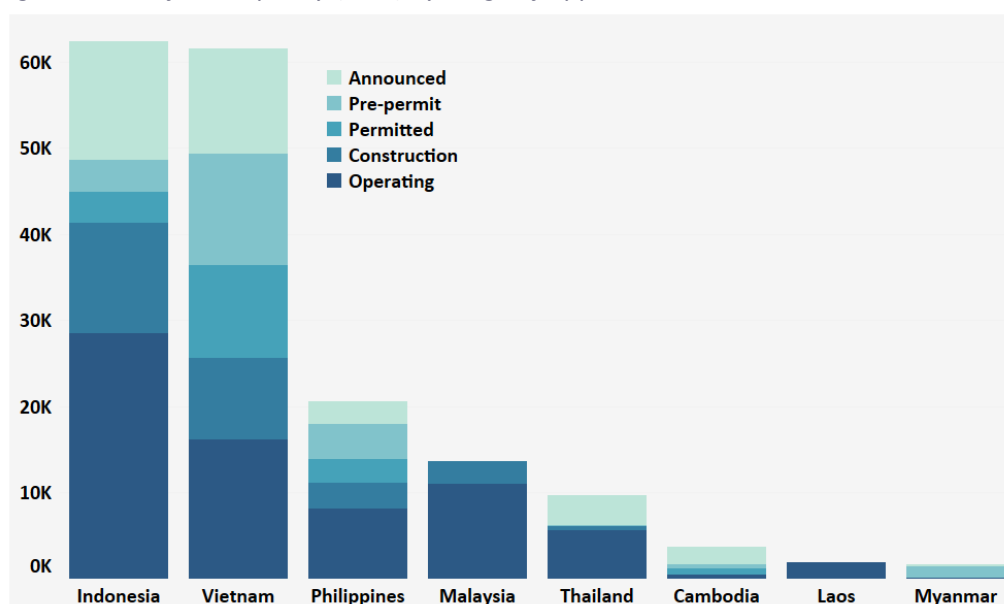
Source: E3G analysis of IEA data<sup>29</sup>

<sup>28</sup> IEA (2018) *World Energy Investment 2018*

<sup>29</sup> IEA (2018) *World Energy Investment 2018*

South East Asia has the third highest number of coal power plants in the pipeline after China and India<sup>30</sup>. Indonesia, Vietnam and the Philippines have the largest coal pipeline of all South East Asian countries (see Figure 3), with Malaysia and Thailand not far behind. Whilst in India and China there has been a decline in the capacity of coal-fired power plants reaching the final investment decision stage in 2016 compared to an annual average between 2011-2015<sup>31</sup>, in South East Asia the capacity reaching final investment decision has remained roughly constant year on year since 2006<sup>32</sup>. And some of these investments involve the multilateral development banks: the IFC’s lending intermediaries continue to finance coal mining projects in Indonesia<sup>33</sup>.

Figure 3: Coal-fired capacity (MW) by stage of approval in South East Asian countries<sup>34</sup>



Source: E3G analysis of Global Coal Plant Tracker Data<sup>35</sup>

These coal investments are in spite of coal becoming less and less competitive as an electricity generation technology<sup>36</sup> in the region (and around the world). See Table 1 below).

<sup>30</sup> E3G (2017) [Greening the Asian Development Bank: Aligning with Global Climate Goals](#)

<sup>31</sup> IEA (2017) [World Energy Investment Outlook 2017](#)

<sup>32</sup> IEA (2018) [World Energy Investment 2018](#)

<sup>33</sup> [Inclusive Development \(2019\) Digging Deeper](#)

<sup>34</sup> According to Global Coal Plant Tracker, countries included in South East Asia include Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand and Vietnam. Singapore is not included as it burns no coal. Brunei is not included.

<sup>35</sup> End Coal (2018) [Global Coal Plant Tracker](#)

<sup>36</sup> [Carbon Tracker \(2018\) Global coal plants run at a loss](#)



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*Table 1: Inflection points in the competitiveness of coal generation*

	<i>Year when new solar PV will outcompete new coal</i>	<i>Year when existing coal has a higher cost than new solar PV, based on a capacity-weighted average</i>
Indonesia	2021	2029
Vietnam	2020	2030
Philippines	2021	2030

Source: **Carbon Tracker**<sup>37</sup>

As indicated above in Table 1, new-build solar photovoltaic generation is set to become cheaper than new-build coal-fired generation by 2021 in Indonesia, 2020 in Vietnam, and 2021 in the Philippines — making solar the cheapest source of new generation capacity as of those dates.

Furthermore, as shown in the adjacent column, running existing coal-fired generation assets may continue to be profitable in absolute terms in South East Asia, but will become increasingly unprofitable in relative terms compared to its main market competitor, solar photovoltaic generation. Indeed, it is projected that, by 2030, building new solar photovoltaic facilities will be cheaper on average than operating old coal-fired facilities in all three countries.

The risk of stranded assets is particularly clear when you consider the percentage of the coal fleet that is at risk of having running costs higher than those of new renewables. Table 2 shows how in just over ten years no less than 73% of the coal plants in Indonesia are projected to be running with higher opex costs than new solar, putting them at risk of being mothballed and classed as stranded assets. In Vietnam and the Philippines this proportion falls to under 50%, which is still enough to have major repercussions in the financial system.

*Table 2: Percentage of coal capacity with opex higher than cost of new renewables*

	<i>Percentage of total coal capacity with a higher running cost than new solar PV (%)</i>	
	<i>In 2018</i>	<i>In 2030</i>
Indonesia	0%	73%
Vietnam	0%	46%
Philippines	0%	40%

Source: **Carbon Tracker**<sup>38</sup>

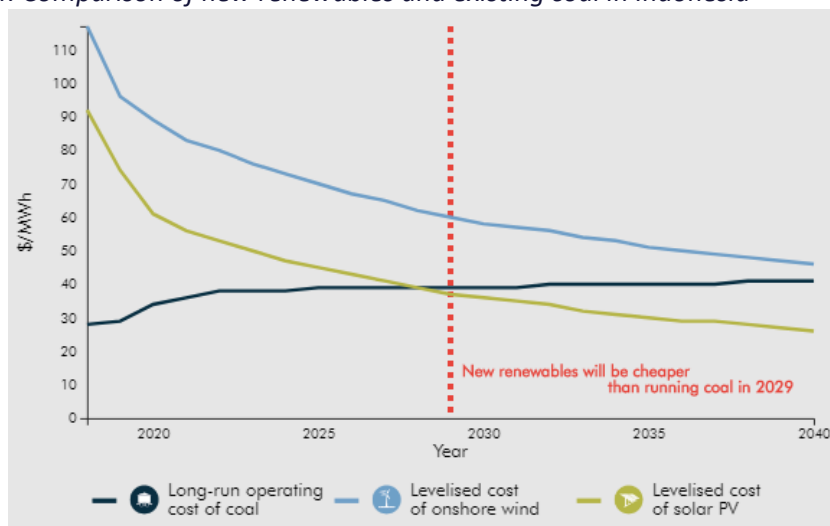
Taking a lifetime Levelised Cost of Electricity perspective, Figure 4 below shows that in Indonesia new solar and wind will be cheaper than operating existing coal in 2029. Solar

<sup>37</sup> Carbon Tracker (2018) **Powering down coal: Navigating the economic and financial risks in the last years of coal power**

<sup>38</sup> Ibid.

PV and wind are particularly complementary within each 24 hour cycle and on a seasonal basis, making these the two core technologies of a decarbonised power grid.

Figure 4: Comparison of new renewables and existing coal in Indonesia



Source: Carbon Tracker<sup>39</sup>

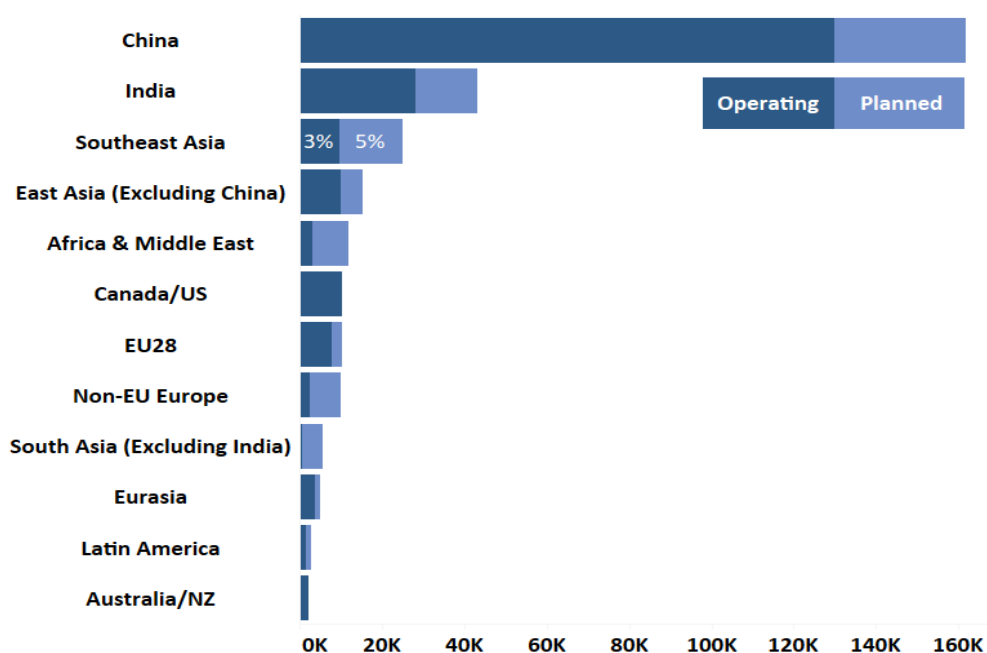
Furthermore, the coal fleet in Asia as a whole is relatively young, with many more years left of operational lifetime as compared to Europe or the USA (see figure below). The remaining lifespan of most coal-fired power stations in the three countries is more than 30 years. Therefore, when you look at both the current and projected global capacity of coal-fired power and its related carbon emissions, Asia’s coal fleet presents a major threat to the world’s ability to achieve a net zero power sector by 2050.

The growth in coal power generation also poses macroeconomic risks for the region. Moody’s, one of the leading credit ratings agencies, has said that “the potential that coal power plants will become impaired or otherwise non-productive (stranded asset risk) is rising in Asia, given government policies promoting renewables, ongoing cost reductions for renewables and development of disruptive technology”<sup>40</sup>.

<sup>39</sup> From website: <https://www.carbontracker.org/reports/coal-portal/>

<sup>40</sup> Moody’s (2019) Climate goals, declining costs of renewables signal decreasing reliance on coal power

Figure 5: Coal-fired lifetime CO<sub>2</sub> remaining by global region<sup>41</sup>.



**Source:** E3G analysis of Global Coal Plant Tracker Data, updated in 2019<sup>42</sup>. For planned plants, the lifetime is 40 years. ‘Planned’ incorporates announced, pre-permit, permitted and under construction plants. Percentage refers to the percent of global total.

In summary, decarbonising Asia and South East Asia’s energy and infrastructure spending is of utmost importance to global efforts to combat climate change.

### A double ring of fire: climate risk and vulnerabilities in South East Asia

South East Asia will experience major impacts of climate change if action is not taken quickly to reduce global carbon emissions. Climate change will exacerbate the risks in a region that is already disaster-prone and has to deal with major earthquakes, tsunamis and volcanic eruptions. The Global Climate Risk Index has found that 4 of the top 10 countries most affected by climate events between 1997-2016 were in South East Asia<sup>43</sup>, ranking Philippines 5<sup>th</sup> and Vietnam 8<sup>th</sup>, for example. The Climate

<sup>41</sup> According to Global Coal Plant Tracker, countries included in South East Asia include Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand and Vietnam. Singapore is not included as it burns no coal. Brunei is not included.

<sup>42</sup> End Coal (2018) **Global Coal Plant Tracker**

<sup>43</sup> Germanwatch (2018) **Global climate risk index 2018**



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Vulnerability Index classifies South East Asia's population and ecosystems as either "highly" or "extremely" vulnerable to climate change<sup>44</sup>.

The region is exposed to a wide array of climate-related natural disasters and risks. Sea level rise poses a threat to the significant proportions of the population living in low-lying coastal areas<sup>45</sup>. Changing rainfall patterns<sup>46</sup> and worsening storms will also adversely impact the region including via floods<sup>47</sup>. Moreover, Indonesia and the Philippines together possess over a quarter of the world's coral reefs<sup>48</sup>, which are very vulnerable to even small rises in average temperatures and ocean acidification. A quarter of all marine species are dependent on coral reefs<sup>49</sup>, and about 54% of Indonesia's animal protein supply comes from fish and seafood<sup>50</sup>, meaning that food security in these areas is vulnerable to the loss of coral reefs.

More frequent extreme weather will have adverse effects on security, health and the wider economy, with the type and magnitude of impacts varying across Asia. One recent study has estimated the costs of the impacts of climate change to Indonesia as amounting to USD 9 billion across sea level rise, health and agriculture<sup>51</sup>. Analysis by the Asian Development Bank (ADB) suggests that the impacts of climate change in South East Asia could reach 11% of GDP by 2100. The physical impacts of climate change, both acute (i.e. event-driven) and chronic (i.e. incremental shifts in weather patterns), will impact infrastructure in these countries, making it crucial to integrate climate resilience from the design stage.

Notably, both Vietnam and the Philippines are members of the Climate Vulnerable Forum, a group of countries from around the world which are disproportionately impacted by climate change. In 2016, at COP22 in Marrakech, these countries announced a bold vision to achieve 100% domestic energy production from renewable energy<sup>52</sup> <sup>53</sup>. MDBs can play a key role in helping these countries achieve this policy ambition.

Moreover, in a region experiencing the impacts of a changing climate, the role of MDBs becomes even more important than before. Recent research demonstrates that

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<sup>44</sup> Relief Web (2017) [Climate\\_Change\\_Vulnerability\\_Index\\_2017](#)

<sup>45</sup> SIIA (2017) [Impact of Climate Change on ASEAN International Affairs](#)

<sup>46</sup> Met Office (2014) [South East Asia Climate Analysis and Modelling Framework](#)

<sup>47</sup> Scientific American (2018) [Typhoon-Hammered Philippines in "Fight for Our Survival"](#)

<sup>48</sup> Coral UNEP (2001) See: [UNEP-WCMC World Atlas of Coral Reefs: The most detailed assessment ever of the status and distribution of the world's coral reefs](#)

<sup>49</sup> NOAA (2019) [Shallow coral reef habitats](#)

<sup>50</sup> UNDP (2018) [Factsheet about Indonesia oceans](#)

<sup>51</sup> weAdapt (2018) [Indonesia: Costs of Climate Change 2050 – Technical Report](#)

<sup>52</sup> See: <https://thecvf.org/marrakech-vision/>

<sup>53</sup> Climate Action Network (2018) [Climate Vulnerable Forum \(CVF\) Countries Forging Ahead with Implementing the Marrakech Vision on 100% Renewable Energy](#). It is important to note that in some CVF countries, such as Vietnam, not all government ministries are fully signed up to this commitment.



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climate-vulnerable developing countries are experiencing higher costs of sovereign debt specifically due to their climate risks, and that this has already cost these countries USD 60 billion over the last 10 years<sup>54</sup>. MDBs have a key role to play in reversing this trend.

### **Opportunities for investment toward a green, clean South East Asia**

South East Asia has a major opportunity to achieve Paris-aligned sustainable development and green growth. UN Environment and the Development Bank of Singapore estimate that between 2016 and 2030, additional demand for green investment in the ASEAN region will reach USD 3 trillion. The ADB has stated that “clean energy’s potential has been barely tapped in Asia and the Pacific region”<sup>55</sup>.

On **green finance**, initial work has already begun on greening the financial system and encouraging sustainable finance<sup>56</sup> in the region. For example, in Indonesia, the Financial Services Authority has cooperated with several related institutions to draft the Sustainable Finance Roadmap<sup>57</sup>. Furthermore, eight national banks in Indonesia, together with WWF-Indonesia, recently launched the ‘Indonesia Sustainable Finance Initiative’ (ISFI)<sup>58</sup>. This initiative currently focuses mainly on environmental and social governance factors. In addition to this the Asia Sustainable Finance Initiative was launched in early 2019 to bring together the financial sector, academia and scientific organisations to support financial institutions in their efforts to deepen their sustainable finance expertise<sup>59</sup>. The Philippines is a member of the Coalition of Finance Ministers for Climate Action<sup>60</sup>.

Since 2016 the Indonesian government has implemented a ‘green budgeting’ policy<sup>61</sup>. This means that since 2016 all climate-related spending has been tagged, showing that it is increasing. This includes spending in all ministries to support the implementation of the NDC, both in terms of climate mitigation and adaptation.

**Green bonds** are also beginning to play a role in the region. A commercial bank in the Philippines in 2017 launched a green bond with the support of the IFC<sup>62</sup>. Vietnam has

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<sup>54</sup> SOAS, UN Environment and Imperial College Business School (2018) **Climate change and the cost of capital in developing countries**

<sup>55</sup> **ADB (2015) Clean Energy Investment report**

<sup>56</sup> According to the UNEP inquire report... “In general the distinction can be drawn between approaches to sustainable finance that take a broad environmental, social, economic and governance approach, and those that take a narrower, green finance one concerned only with environmental issues”. See [http://unepinquiry.org/wp-content/uploads/2016/09/1\\_Definitions\\_and\\_Concepts.pdf](http://unepinquiry.org/wp-content/uploads/2016/09/1_Definitions_and_Concepts.pdf)

<sup>57</sup> OJK (2015) **Sustainable Finance Roadmap in Indonesia for the Period 2015-2019**

<sup>58</sup> WWF (2018) **Eight National Banks and WWF-Indonesia Launch the ‘Indonesia Sustainable Finance Initiative’ (ISFI)**

<sup>59</sup> Asia Sustainable Finance Initiative <https://www.asfi.asia/>. Another relevant initiative for the region is the **Joint Crediting Mechanism**. This is a mechanism initiated by Japan to finance low carbon technologies in partner countries such as Indonesia, where the credits are then used to help achieve Japan’s emissions reduction target.

<sup>60</sup> CAPE (2019) **Coalition of Finance Ministers for Climate Action**

<sup>61</sup> Indonesia Ministry of Finance (2015) **Green planning and budgeting strategy**

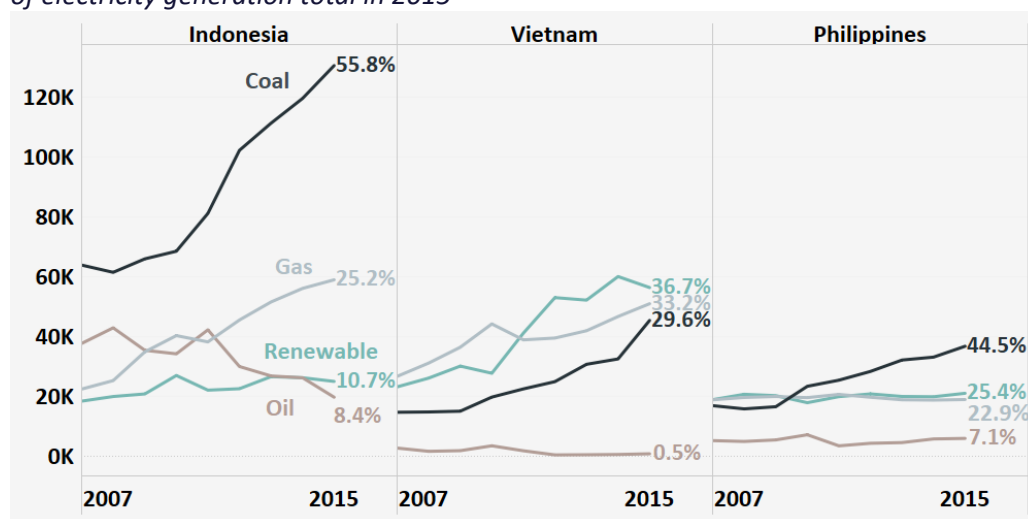
<sup>62</sup> **Infrastructure Investor (2015) IFC backs Unibank’s USD 150 million green bond**

also done a municipal green bonds issuance pilot in two cities since 2016. The Vietnamese government has also taken steps towards putting in place a legal framework for corporate green bonds. The ADB has also supported some green bond issuances (more detail on this can be found in the next section).

There is vast potential for **renewable energy** in the region. ASEAN has set an “aspirational” target of 23% renewables by 2025<sup>63</sup>, but much progress is yet to be made. Nine bilateral and multilateral developments have invested USD 6 billion in South East Asian renewable projects between 2009 and 2016<sup>64</sup>. This has often been complemented by increasing private sector investments within public-private partnerships.

Figure 7 below shows during the 2007-2015 period renewables as a percentage of electricity generation grew steadily in Vietnam but remained largely flat in the Philippines and Indonesia, despite growing energy demand.

Figure 7: Electricity generation trend by technology type (GWh) and percentage share of electricity generation total in 2015



Source: IEA Energy Statistics<sup>65</sup>

<sup>63</sup> Website: <http://www.aseanenergy.org/programme-area/re/>

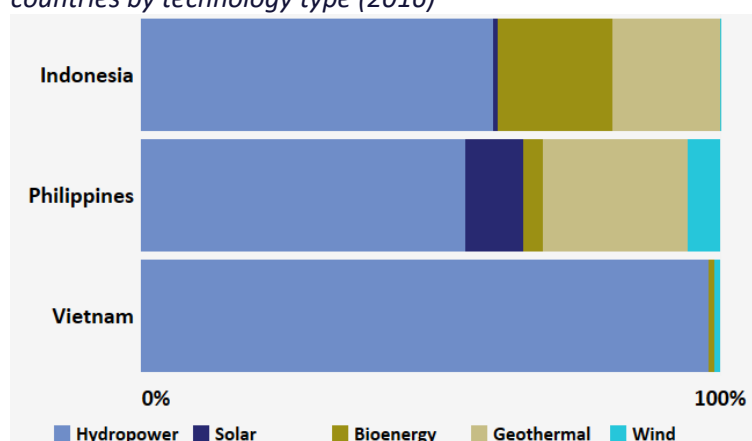
<sup>64</sup> IRENA (2018) **Renewable energy market analysis South East Asia**

<sup>65</sup> IEA (2018) **Statistics**



As regards the different renewable energy technologies, all three countries already have significant installed capacity of hydropower. Figure 8 below shows that hydro is the dominant renewable in all three countries and almost sole source of renewable electricity generation capacity in Vietnam<sup>66</sup>.

*Figure 8: Percentage mix of renewable energy installed capacity across South East Asia countries by technology type (2016)*



Source: E3G Analysis of IRENA Data<sup>67</sup>

The technical potential for the different renewable technologies is significant. Indonesia is estimated to possess 40% of the world's geothermal power potential (although developing this is high-risk and capex intensive), and its biomass and hydro resources are abundant<sup>68</sup>. Vietnam has significant solar PV potential, and the Philippines has the resources to become a hub for ocean energy.

The renewable technologies with the most technical potential are solar, wind and ocean energy. Solar and wind are of course subject to variability, which means that for effective grid integration complementary technologies such as hydro and pumped storage<sup>69</sup>, concentrated solar power, energy storage, interconnectors and demand response will also be needed to create a flexible electricity system without the need to rely on coal, gas or diesel power generation. Furthermore, it is important to consider that renewables can be built more quickly than fossil fuel powered generation capacity, an advantage with constantly rising energy demand.

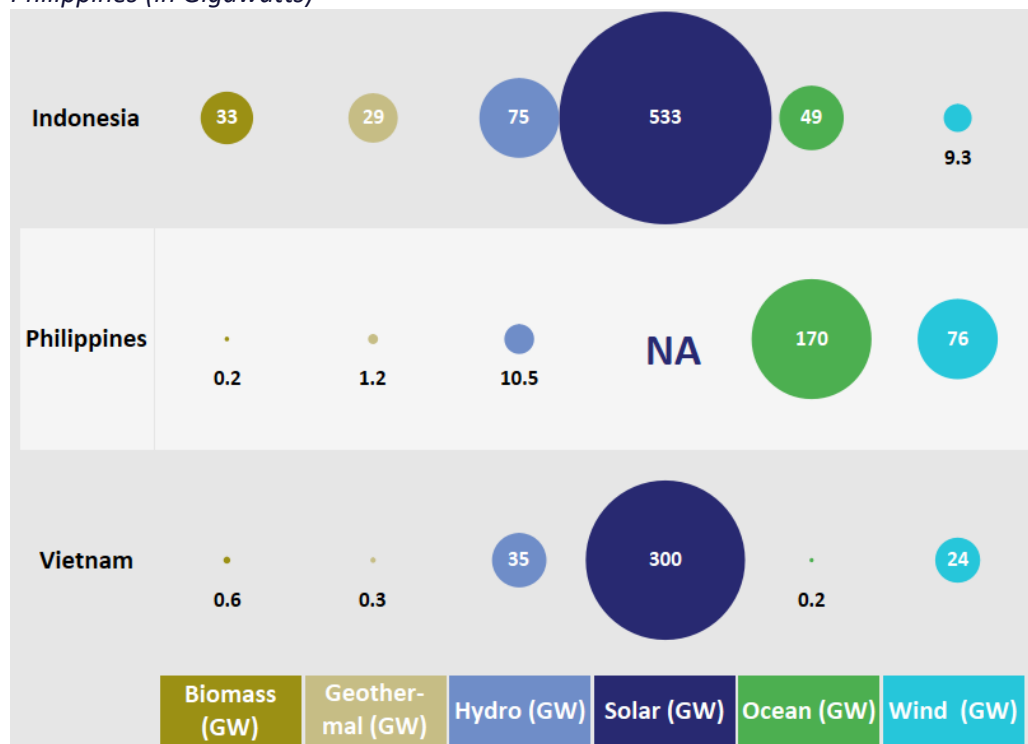
<sup>66</sup> It should be noted that in Vietnam large hydropower above 30MW is not officially considered to be a source of renewable energy.

<sup>67</sup> IRENA (2018) [Resource IRENA](#)

<sup>68</sup> Climatescope (2017) [Climatescope - Indonesia](#)

<sup>69</sup> The Conversation (2018) [Indonesia has far more than enough pumped hydro storage sites to support a 100% renewable electricity grid](#)

Figure 9: Estimated technical potential for clean energy in Vietnam, Indonesia and Philippines (in Gigawatts)



**Sources and notes:** Non-solar figures from ASEAN (2016)<sup>70</sup>, Indonesia Solar Figure from IRENA (2017),<sup>71</sup> Vietnam Solar Figure from Danish Energy Agency (2017)<sup>72</sup>. Vietnam Wind Figure (2017)<sup>73</sup>. Appropriate figures could not be found for the solar energy potential in the Philippines. Current installed solar PV capacity in the Philippines estimated to be 1.2GW<sup>74</sup>.

There is also significant potential for **energy efficiency** improvements in the region. Vietnam for example has an energy intensity (energy consumption per unit GDP) which is comparatively high at about 289-270 kgOE/1000 USD during 2010-2015<sup>75</sup>, more than double the global average<sup>76</sup>. More efficient air conditioning, lighting and process improvements within energy-intensive industries are likely to be the most effective ways to lower this. Indonesia and the Philippines have lower energy intensities<sup>77</sup>.

<sup>70</sup> ASEAN Energy (2016) **Facing the Challenges on Energy Demand: Time for Renewable Energy?**

<sup>71</sup> IRENA (2017) **IRENA\_REmap\_Indonesia\_report\_2017**

<sup>72</sup> Danish Energy Agency (2017) **Vietnam energy outlook report**

<sup>73</sup> GIZ (2017) **Support to the upscaling of wind power**

<sup>74</sup> Estimated installed capacity compiled by Philippines Solar and Storage Energy Alliance.

<sup>75</sup> **Danish Energy Agency (2017) Vietnam Energy Outlook**

<sup>76</sup> Website: <https://data.worldbank.org/indicator/EG.USE.COMM.GD.PP.KD>

<sup>77</sup> Website: <https://data.worldbank.org/indicator/EG.USE.COMM.GD.PP.KD>



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Energy efficiency investments provide a cost-effective way to sustainably grow an economy. IFC has highlighted the potential for investments in building energy efficiency and in encouraging low carbon transport as a key way to meet NDC commitments in these three countries<sup>78</sup>. ADB has analysed the level of investment required for select countries in the region to meet their current energy efficiency targets for 2020. For the Philippines the figure is USD 610 million, for Vietnam USD 650 million and for Indonesia the amount required is USD 6 billion<sup>79</sup>.

In terms of **sustainable transport**, there are major economic opportunities available from a shift to low carbon transport in the region. Road congestion already costs Asian economies between 2-5% of GDP every year due to lost time and increased costs<sup>80</sup>. Asian transport emissions are projected to rise from 19% of total global transport emissions in 2006 to 31% in 2030<sup>81</sup>. Improvements in public transport systems can act as a multiplier of economic growth. There are also clean economy and health co-benefits from tackling air pollution.

As regards **industrial strategy**, many global solar PV manufacturers have invested in PV manufacturing in Vietnam, Indonesia, Malaysia and Thailand. This means that for these countries in South East Asia, clean technologies and renewable energy equipment should also be seen as a priority in terms of industrial strategy and job creation. Although Chinese manufacturers are likely to continue to dominate this market, if there is evidence of a substantial domestic market for these products manufacturers are more likely to site additional plants in these countries.

There are also significant opportunities for investment in agriculture, land use, urban policy and oceans that could help bring down carbon emissions in the region. **Natural climate solutions** such as reforestation, peatland restoration and improved rice cultivation could save 161MtCO<sub>2</sub>e/year in the Philippines, 213MtCo<sub>2</sub>e/year in Vietnam, 1853MtCO<sub>2</sub>e/year in Indonesia. In all three countries this is well above the stated emissions reduction target in the country's Nationally Determined Contribution.<sup>82</sup>

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<sup>78</sup> IFC (2017) **Climate Investment Opportunities in Emerging Markets**

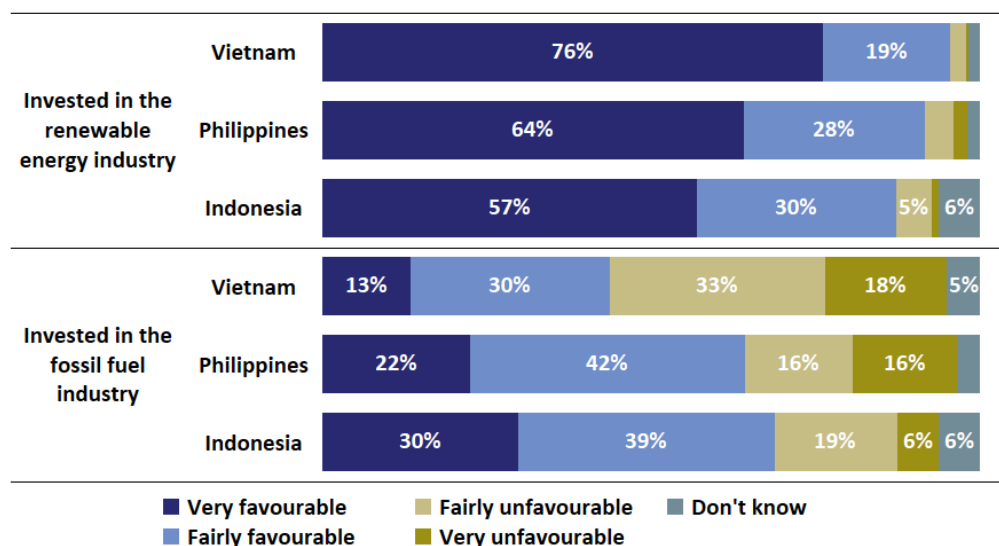
<sup>79</sup> ADB (2013) **Same Energy, More Power: Accelerating Energy Efficiency in Asia**

<sup>80</sup> ADB (2010) **Sustainable Transport Initiative Operational Plan**

<sup>81</sup> ADB (2018) **ADB's Work in Sustainable Transport**

<sup>82</sup> Natural Climate Solutions World Atlas tool, data extracted for three countries in May 2019. Nature4Climate (2019) **Natural Climate Solutions World Atlas tool**.

Figure 10: Polling Question: ‘In general, how favourable or unfavourable would you feel towards foreign governments, banks, and companies that did either of the following?’



Source: YouGov polling for E3G, April 2019<sup>83</sup>

Last but not least, there is evidence that **public opinion in the three countries** is very much in favour of renewable energy technologies rather than coal and fossil fuels. In all three countries, an overwhelming majority of the public surveyed (over 87%) responded that they would be Very or Fairly Favourable to foreign banks<sup>84</sup> that invested in the renewable energy industry. In contrast, the public in these countries would be much less favourable to foreign government, banks and companies that invested in the fossil fuel industry in their countries. Less than a third of the public in every country say they would be Very Favourable to the investing entity in these circumstances. In Vietnam, 51% of respondents indicated that they would be Very or Fairly Unfavourable towards foreign banks investing in the fossil fuel industry.<sup>85</sup>

<sup>83</sup> E3G (2019) *Clean Energy not coal: citizens views in six countries*

<sup>84</sup> Although the ADB is not technically speaking a ‘foreign’ bank as the governments of Indonesia, Vietnam and the Philippines are shareholders, it is also not a domestic bank, and is therefore likely to be perceived as more of a foreign bank.

<sup>85</sup> E3G (2019) *Clean Energy not coal: citizens views in six countries*



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## The Asian Development Bank: an enabler of the transition in Indonesia, Vietnam and the Philippines

### Current targets and support for climate finance, energy and infrastructure

The Asian Development Bank, like all other major MDBs and development finance institutions, has committed to **align its operations with the goals of the Paris Agreement** and support the implementation of country Nationally Determined Contributions<sup>86</sup> and developed a framework of six major areas or “building blocks” to detail how this is to be implemented<sup>87</sup>.

Senior staff at the ADB have also clearly stated that there is **no place for “dirty energy”** within its lending portfolio and that “coal-based power plants will no longer be a viable option to meet the electricity demand of developing countries”.<sup>88</sup>

The ADB has recently published its “Strategy 2030” highlighting its alignment with global development agreements and frameworks, including the Sustainable Development Goals and the Sendai Framework for Disaster Risk Reduction. The ADB’s lending has a core focus on infrastructure with more than 50% of its lending portfolio allocated to energy and transport projects<sup>89</sup>. The Bank’s 2030 Strategy highlights that the ADB “will promote quality infrastructure investments that are green, sustainable, resilient, and inclusive”, which is important as Asia represents 54% of the world’s requirements for new infrastructure<sup>90</sup>. However, it would appear that there remain some ADB financed projects that are not aligned to the Paris Agreement<sup>91</sup>, although it is not clear whether the final investment decisions on these projects were taken before or after the ADB committed to Paris alignment in December 2017<sup>92</sup>.

In 2015 the ADB committed to a **climate mitigation and adaptation financing target** of USD 6 billion by 2020<sup>93</sup>, measured in terms of the common climate finance methodology across all MDBs. The ADB is on track to meet this target, which is welcome. ADB’s “Strategy 2030” further commits ADB to ensuring that 75% of the number of ADB’s committed operations (on a 3-year rolling average, including both sovereign and non-sovereign operations) will be supporting climate change mitigation

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<sup>86</sup> AfDB et al (2017) **Joint IFDC and MDB statement Paris Alignment**

<sup>87</sup> World Bank et al (2018) **MDB alignment approach to objectives Paris Agreement**

<sup>88</sup> Vietnam News (2018) **No place for ‘dirty energy’ in the ADB’s climate vision**

<sup>89</sup> Lowy Institute (2017) **Strengthening the Asian Development Bank in 21st century Asia**

<sup>90</sup> McKinsey (2017) **Bridging infrastructure gaps: Has the world made progress?**

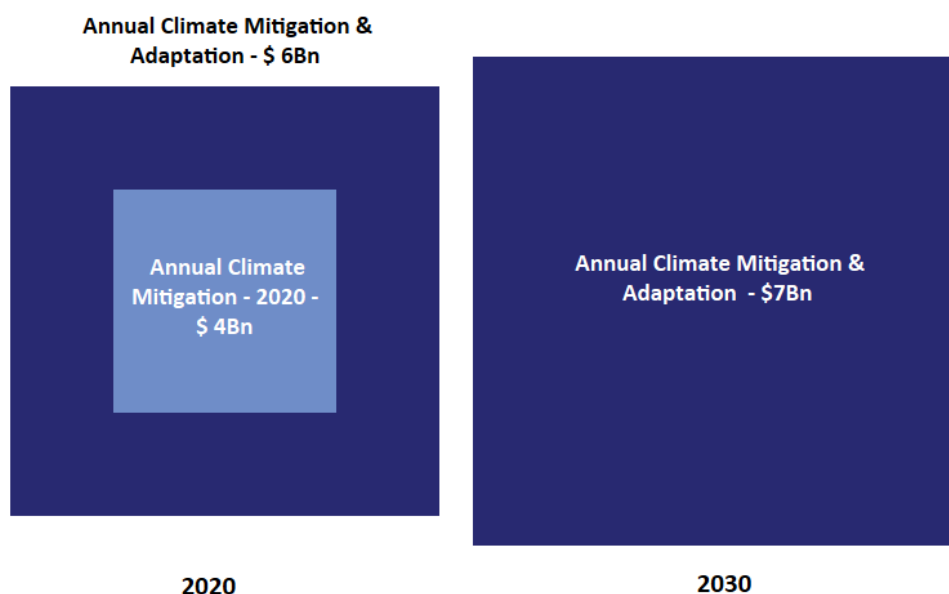
<sup>91</sup> WRI (2017) **Financing the Energy Transition: are World Bank, IFC, and ADB Energy Supply Investments Supporting a Low-Carbon Future?**

<sup>92</sup> ADB (2017) **Joint IDFC-MDB Statement: Together Major Development Finance Institutions Align Financial Flows with the Paris Agreement**

<sup>93</sup> **ADB (2018) ADB sells USD 600 million bond to spur climate financing**

and adaptation by 2030<sup>94</sup>. The strategy also commits climate finance from ADB’s own (approved) resources to reach **USD 80 billion cumulatively from 2019 to 2030**, which appears to be increasing the annual climate investment target very slightly from USD 6 billion to an average of USD 7.3 billion. (Note: the two figures are not directly comparable due to a difference between approved and committed resources.) This makes the Asian Development Bank the first MDB to have made a climate financing commitment for 2030<sup>95</sup>. However, as Figure 11 shows in terms of annual lending the 2030 commitment is not much higher than the 2020 commitment (although as stated previously the two figures are not directly comparable).

Figure 11: Specific climate finance targets announced by the Asian Development Bank



Source: ADB Annual Report 2017<sup>96</sup>, ADB (2018)<sup>97</sup>, ADB (2018)<sup>98</sup>

MDB spending targets should also be seen in the context of the scale of the climate challenge. The ADB estimates that developing countries across Asia will need to invest USD 26 trillion from 2016 to 2030 or USD 1.7 trillion per year if the region is to maintain its growth, eradicate poverty and respond to climate change.

<sup>94</sup> ADB (2018) **ADB launches Strategy 2030 to respond to changing challenges Asia Pacific**

<sup>95</sup> Other multilateral and bilateral development banks have made climate finance commitments up until 2025 but not beyond that.

<sup>96</sup> ADB (2017) **ADB Annual Report 2017**. The clean energy finance target of USD 3 billion by 2020 is separate to the climate change mitigation and adaptation target of USD 6 billion by 2020.

<sup>97</sup> ADB (2018) **ADB sells USD 600 million bond to spur climate financing**

<sup>98</sup> ADB (2018) **ADB launches Strategy 2030 to respond to changing challenges Asia Pacific**



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At present the ADB invests less than USD 6 billion per year in the energy sector as a whole. The ADB should therefore focus on innovative financial instruments such as guarantees to mobilise private capital.

*Recommendations on targets and commitments:*

- > The Asian Development Bank should use the forthcoming energy policy review to set a target date for 100% of its energy lending to be to **zero carbon energy** projects, phasing out lending to unabated fossil-related projects. This should also involve a stricter screening process for proposed projects. The bank's energy policy should also be reviewed more frequently e.g. every five years rather than the current 10 years.
- > The Asian Development Bank needs to change the definition of and set a significantly more ambitious target on **clean energy** investment. This target currently includes natural gas as a type of 'clean energy', which is misleading. This needs to be removed. In order to assist with this transparency, the ADB should also in future consider disclosing against the EU's so-called taxonomy of sustainable investments, which is being designed to have a global scope.<sup>1</sup> It should set a target date for its whole portfolio to be screened against 'do no significant harm' criteria on climate change.
- > The Bank's **climate finance** target of USD 6 billion per year should be significantly raised in light of the Paris Agreement. As the first MDB to set a target to peak portfolio emissions by 2030<sup>1</sup> - an example of good practice among the major MDBs – the Bank should also report on progress on this on an annual basis.

In 2015 the ADB committed to a **clean energy financing target** of USD 3 billion by 2020<sup>99</sup>, however this includes natural gas and is therefore not a useful measure of the ADB's ambition in terms of energy decarbonisation. The term "clean energy" is therefore misleading in this context. Furthermore the USD 3 billion target is just above existing clean energy lending levels since 2010. ADB approved USD 2.04 billion for renewable energy and energy efficiency projects in 2017<sup>100</sup>, a decrease when compared the USD 2.5 billion that was lent in 2015<sup>101</sup>. The clean energy investment target needs to be revised (in terms of either scope and then level) in line with the Paris Agreement's goals of limiting temperature rise well below 2°C and pursuing efforts to limit to 1.5°C. The energy policy review would be the perfect opportunity to do this.

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<sup>99</sup> ADB (2017) **ADB Annual Report 2017**. The clean energy finance target of USD 3 billion by 2020 is separate to the climate change mitigation and adaptation target of USD 6 billion by 2020.

<sup>100</sup> ADB (2017) **ADB Annual Report 2017**

<sup>101</sup> ADB (2015) **2015 Clean Energy Investments: Project Summaries**

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A number of significant initiatives have been launched in recent years by the ADB with regards climate finance.

As regards NDC implementation, in December 2018 the ADB launched a platform called **NDC Advance**<sup>102</sup> to help developing countries in the region mobilise finance to enact their NDCs. Part of this is also technical assistance to help countries access potential sources of finance. There is also a focus on the measuring, monitoring and reporting on commitments made by countries in their NDCs. This is an excellent initiative that other MDBs could replicate around the world.

In terms of **green bonds**, ADB's green bond program has raised USD 5 billion between 2015 and 2018<sup>103</sup>. The Asian Development Bank backed the issuance of the Philippines's first climate bond by a geothermal energy developer in February 2016<sup>104</sup>. ADB is also working with the ASEAN+3 governments<sup>105</sup> to develop green local currency denominated bond markets for infrastructure development, create policy frameworks for green bonds and expand the demand and supply of green bonds<sup>106</sup>. Setting up a Green Finance Catalysing Facility could be an opportunity for more green bond issuances in the South East Asia region<sup>107</sup>.

Analysis of OECD data shows that vast majority of the Asian Development Bank's mitigation finance to Indonesia and the Philippines goes to the energy sector, whereas for Vietnam much of this went to the transport sector. Much of this finance is done in the form of debt financing. The Asian Development Bank, together with the IFC, has also advised the State Bank of Vietnam on its green banking strategy.

In Indonesia, the Asian Development Bank has financed and advised on renewables through its private sector<sup>108</sup> and technical assistance arm and was involved in the first large-scale solar PV and wind projects<sup>109</sup> in the country. It has also funded projects related to geothermal development in the country<sup>110</sup>. Work is also underway to support the modernisation of electricity grid infrastructure<sup>111</sup> to allow the integration of higher shares of renewables. This includes smart grid pilots including battery storage to mainstream combined renewable and storage projects in Indonesia.

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<sup>102</sup> 2018 (ADB) **New ADB platform to help boost financing for climate action** and

<sup>103</sup> Updated information provided by ADB staff to E3G in May 2019.

<sup>104</sup> **ADB (2016) ADB backs first climate bond in Asia Philippines**

<sup>105</sup> ASEAN plus Japan, China and Republic of Korea.

<sup>106</sup> **ADB (2018) Promoting green local currency bonds in ASEAN+3**

<sup>107</sup> ADB (2017) **Catalyzing Green Finance: A Concept for Leveraging Blended Finance for Green Development**

<sup>108</sup> The Asian Development Bank has a Private Sector Operations Department. **For more information see here.**

<sup>109</sup> **ADB (2018) ADB finances first utility solar plant Indonesia**

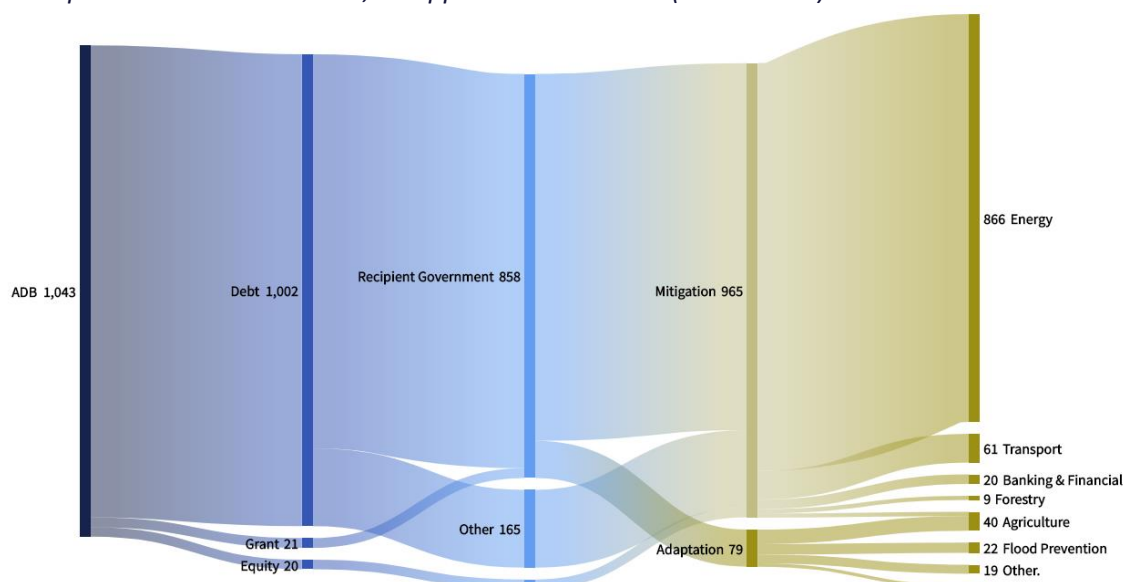
<sup>110</sup> **ADB Sustainable and Inclusive Development Program: Indonesia.**

<sup>111</sup> **Smart Energy (2017) Indonesia secures USD 1.1billion for infrastructure upgrades**

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Figure 12: Sankey Flow diagram of 2015-2017 climate finance from Asian Development Bank to Indonesia, Philippines and Vietnam (USD million).



Source: OECD-DAC data on climate-related development finance<sup>112</sup>.

The ADB has also, in cooperation with the German government, established **the Asia-Pacific Climate Finance Fund** to “support the development and implementation of financial risk management products that can help unlock capital for climate investments and improve resilience”<sup>113</sup>. The Fund has been designed to specifically use risk products that have already been proven elsewhere in the world. These will include risk transfer products, climate bonds, income guarantees for farmers in transition and fintech insurance solutions. So far the fund is planning to finance electricity grid infrastructure, public transport and basic infrastructure for poor urban communities in the three countries covered by this report.

The Canadian government has also created the **Canadian Climate Fund for the Private Sector in Asia**<sup>114</sup>, which is a concessional debt cofinancing facility managed by the ADB. The fund will aim to overcome technology risks and cost hurdles in climate mitigation and adaptation.

In addition to this, the ADB and partners such as the ASEAN Infrastructure Fund, the German development bank KfW, the European Investment Bank and the French development agency (AFD) has also set up the **ASEAN Catalytic Green Finance Facility**, a new initiative to trigger more than USD 1 billion in green infrastructure investments across South East Asia. The ADB is the administrator of this fund. It will

<sup>112</sup> OECD-Development Assistance Committee database, [available here](#).

<sup>113</sup> ADB (2017) **Asia Pacific Climate Finance Fund**

<sup>114</sup> ADB (2013) **Canadian Climate Fund for the Private Sector in Asia**



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use loans, innovative financial instruments and technical assistance to try and catalyse private capital. As with other similar initiatives, it is essential that the focus is very much on innovative ways of encouraging the private sector to come into these markets and technologies.

The ADB has also supported the Indonesian infrastructure investment bank PT Sarana Multi Infrastruktur (PT SMI) to design a green finance facility under the Indonesia One platform, which is dedicated to supporting sustainable development goal related investments in the country. This will blend government, development partner, concessional and philanthropic resources for infrastructure projects with pre-defined green targets<sup>115</sup>.

On **energy efficiency**, there appears to be some activity on green buildings, a few technical assistance programmes that started in 2012 and a statement made in 2015 that investments in energy efficiency had surpassed investments in renewables for the first time<sup>116</sup>.

In Indonesia, a project on scaling up energy efficiency was started in 2017<sup>117</sup>. This involved technical assistance for promoting a market for energy service companies (ESCOs) and for drafting national Minimum Energy Performance standards for various appliances, supporting municipal energy efficiency (e.g. street lighting<sup>118</sup>), and provided USD 1.2 million for pilot projects on energy efficiency demonstrating the viability of public sector energy efficiency investments. Energy efficiency standards for household appliances and other efficiency measures were also supported by the Sustainable and Inclusive Energy Program<sup>119</sup>.

As regards Vietnam, the ADB has funded an extensive study of the energy efficiency potential in Vietnam and neighbouring countries<sup>120</sup>. It has also funded energy efficiency work on the Ho Chi Minh City water supply infrastructure<sup>121</sup>.

There is however a need for more data and transparency in the area of energy efficiency, as the ADB includes fossil fuel plant retrofits as energy efficiency investments<sup>122</sup>. (This is also an issue in the MDB wide definition of energy efficiency<sup>123</sup>.) Analysis of ADB projects for Indonesia, Vietnam and the Philippines as reported to the OECD-DAC project-level database on climate-related finance over

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<sup>115</sup> Information from email interview with ADB Indonesia office.

<sup>116</sup> **ADB (2015) Clean Energy Investment**

<sup>117</sup> **ADB (2017) Indonesia: Scaling up energy efficiency**

<sup>118</sup> ADB (2017) LED lighting pilot Indonesia

<sup>119</sup> ADB (2017) **ADB to provide Indonesia energy sector with over USD 1 billion in loans**

<sup>120</sup> ADB (2015) **Energy efficiency development and potential energy savings in the greater Mekong sub-region**

<sup>121</sup> ADB (2017) **Energy efficiency for the Ho Chi Minh City water supply**

<sup>122</sup> **ADB (2009) Energy policy**

<sup>123</sup> EBRD et al (2017) **Joint report on MDB climate finance**



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2015 to 2017 showed no projects described as targeting energy efficiency<sup>124</sup>. This is despite a number of energy efficiency projects listed elsewhere such as in the ADB's yearly climate finance data library dashboard<sup>125</sup>.

There also appears to be little focus on energy efficiency within the Country Partnership Strategies (CPS) of the ADB in Vietnam, Indonesia and the Philippines, perhaps due to a lack of focus on this issue within national governments. It is unclear therefore how this lack of energy efficiency projects tallies with the statement that energy efficiency investments had surpassed those in renewables.

*Recommendations on energy efficiency:*

- > The ADB needs to **make energy efficiency an infrastructure priority** and should consider setting a specific energy efficiency lending target. The bank has already implemented a range of energy efficiency projects, and this activity now needs to be scaled up given growing energy demand and high energy intensity in the region. The ADB has an important role to play in breaking the link between economic growth and rising energy demand. Energy efficiency should be made a core part of the upcoming review of the ADB's energy policy.
- > The ADB should seek to learn from **best practice from other MDBs** around the world, such as the European Bank for Reconstruction and Development (EBRD) which has had success with energy efficiency programmes. The Bank should also continue<sup>1</sup> and increase its promotion of the Energy Service Company (ESCO) model for energy efficiency financing.
- > More **transparency** is needed in project level reporting on energy efficiency, especially given the statement that ADB energy efficiency lending was higher than renewables in 2015<sup>1</sup>. More information is needed on the definition of energy efficiency within the bank.

The Asian Development Bank is also continuing to finance fossil-related projects in the South East Asia region. It recently announced it was providing USD 305 million for what will be Indonesia's largest Combined Cycle Gas Turbine power plant<sup>126</sup>. It would appear this decision was taken after the commitment to align operations to the Paris Agreement.

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<sup>124</sup> This was based on analysis of project descriptions and short descriptions in the database.

<sup>125</sup> ADB (2018) [Climate Change financing at ADB – data library](#)

<sup>126</sup> [Natural Gas World \(2019\) ADB finances Indonesia's largest CCGT](#)



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### **Aligning Country Partnership Strategies with the Paris Agreement**

ADB's work with member countries is referred to as Country Partnership Strategies (CPS) and this is ADB's primary platform for designing operations to deliver development results at the country level.

The new Strategy 2030 is consistent with ADB's Climate Change Operational Framework (CCOF) which states that ADB will be "embedding Nationally Determined Contributions (NDCs) and climate considerations in all country partnership strategies and country operations business plans"<sup>127</sup> and help developing member countries meet their climate commitments under the Paris Agreement and increase their ambitions over time<sup>128</sup>.

The ADB recognises that it faces a challenge as many of its programs are in response to member country projects and priorities, and these member countries may not have developed frameworks for assessing climate impacts<sup>129</sup>. Thus, as the ADB recognises "demand for climate-related external assistance therefore tends to be latent rather than explicit"<sup>130</sup>.

A further challenge is that at present, when aggregated, the total of NDCs would lead to a 3C degree world, which is not compliant with the Paris Agreement. However, the Paris Agreement 'ambition mechanism' requires countries to submit new more ambitious NDCs every five years. There is therefore a need for financial institutions such as the ADB to anticipate this future ambition to both support current NDCs and go further and help develop Paris-aligned country pathways. The ADB has an important role to play in helping countries to identify the least-regret choices in infrastructure for sustainable development.

At present, many Country Partnership Strategies are not in line with the ADB's climate change policy. This should in principle be rectified as the Country Partnership Strategies are updated every 4-5 years, however the 2030 Strategy and ADB's Climate Change Operational Framework (CCOF) have yet to be translated into the Country Partnership Strategy (CPS) guidelines, which were written 2007<sup>131</sup> and are in need of an update. The CCOF recognises this need, seeking to fully mainstream climate change "considerations into corporate strategies and policies, sector and thematic operational plans, country programming and project design, implementation,

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<sup>127</sup> ADB (2017) **Climate Change Operational Framework**

<sup>128</sup> ADB (2017) **Climate Change Operational Framework**

<sup>129</sup> ADB (2017) **Climate Change Operational Framework**

<sup>130</sup> ADB (2017) **Climate Change Operational Framework**

<sup>131</sup> ADB (2007) **Country Partnership Strategy Guidelines**



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monitoring and evaluation”<sup>132</sup>. This potentially explains why the ADB seems to still be financing projects that are not aligned with the Paris Agreement<sup>133</sup>.

The ADB is the only multilateral development bank that has obligatory climate change screening<sup>134</sup> for all investment projects, something which has been in place since 2014. However, ADB needs to tighten its climate risk screening to include not just climate resilience but transition risks as well to avoid all investments that could potentially lock countries into unsustainable pathways and increase vulnerability to financial risks. Since the implementation of this screening process, the ADB has for example invested in upstream gas projects in Azerbaijan<sup>135</sup>. This is an example of the kind of investment that should be ruled out by an adequate climate screening process.

Within this context the ADB should look to implement best practices amongst international financial institutions (IFIs). For example, the French development agency (AFD) has stated that all of its projects will be 100% compatible with the Paris Agreement<sup>136</sup>. AFD has a framework to make its operations consistent with not only the country’s development plans, but also with long term low-emission and climate-resilient development. The AFD has drawn up a list of qualitative criteria and invests significant time in analysing the national context. These criteria assess whether the project is aligned with national low carbon/adaptation strategies, how the project will affect public policies, whether it mobilises financial stakeholders and whether it locks in high carbon infrastructure and climate vulnerability<sup>137</sup>. The AFD’s approach rates projects according to their compatibility with the above criteria. Projects with higher ratings will actively contribute to the transition, with the best of them having a transformational effect by strengthening technical and institutional capacity. The ADB could introduce a similar rating system to its project assessment processes and within the Country Partnership Strategies.

Our analysis of the CPSs for the three countries found that there is a clear attempt to include NDCs and environmental concerns within them. However, the type of support provided for NDCs is not clear.

Indonesia is an example of a country where the CPS pledges to help the government achieve its NDC commitments but the Indonesia unconditional NDC is not ambitious enough. Analysis by Climate Action Tracker has shown that if all government targets

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<sup>132</sup> ADB (2007) **Country Partnership Strategy Guidelines**

<sup>133</sup> WRI (2017) **Financing the Energy Transition: are World Bank, IFC, and ADB Energy Supply Investments Supporting a Low-Carbon Future?**

<sup>134</sup> **ADB (2014) Climate risk management**

<sup>135</sup> ADB (2018) **Azerbaijan: Shah Deniz gas field exploration**

<sup>136</sup> Website: <https://www.afd.fr/en/page-thematique-axe/climate>

<sup>137</sup> AFD (2017) **Climate and Development Strategy 2017-2022**



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were in this range, assuming a ‘fair’ approach to the Paris Agreements’ goals, warming would reach between 3°C and 4°C<sup>138</sup>. The Philippines NDC was judged to be 2°C compatible<sup>139</sup>. (Vietnam was not included in this study.)

CPS guidelines need to be updated in line with a more ambitious climate target and this can only be possible with more proactive role from the ADB. A balance needs to be struck between proactively supporting governments in the region to make more ambitious commitments in terms of emissions reductions, while at the same time respecting political processes within the country.

Within the ADB’s Country Operation Business Plan (COBP) for **Indonesia** there is a Sustainable and Inclusive Energy Program<sup>140</sup>, which is a joint USD 720 million project with the World Bank, KfW and AFD. One of the activities is a policy-based loan to create an improved sustainable energy policy environment which includes technical assistance on renewables and energy efficiency. However, this also supports the use of gas in the domestic market and has the aim of increasing investment in oil and gas in Indonesia by reforming the Oil and Gas Law. It also supports policy actions focused on mid-stream gas infrastructure to reduce diesel and coal use in Indonesia’s energy system and industry. The Indonesian government is also using sovereign guarantees to support the expansion of gas production, locking in a relatively high carbon form of energy (particularly given that in Indonesia the gas fields are geographically distant from the main centres of energy demand)<sup>141</sup>. The ADB has said it will reflect the findings of Indonesia’s Low Carbon Development Initiative in its upcoming Country Partnership Strategy<sup>142</sup>.

In the case of the **Philippines**, the CPS (2018-2023) was updated in August 2018<sup>143</sup>. One of the three strategic pillars is focus on “accelerating infrastructure and long-term investments”. The CPS has a focus on “climate- and disaster-resilient infrastructure”<sup>144</sup>. In addition, the CPS states the ADB will support the Philippines achieve its NDC through knowledge, technology transfer and capacity building. It is possible that this is relatively vague as the Philippines is in the process of reviewing its NDC, something that ADB is engaged in. However, the updated COBP – representing the indicative project pipeline for the next two years – does not include any investments in energy efficiency or renewable projects<sup>145</sup>.

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<sup>138</sup> Climate Action Tracker (2018) **Indonesia**

<sup>139</sup> Climate Action Tracker (2018) **Philippines**

<sup>140</sup> Website: <https://www.adb.org/projects/49043-002/mainb>

<sup>141</sup> Natural Gas World (2018) **Powering Indonesia**

<sup>142</sup> Information from email interview with ADB Indonesia office.

<sup>143</sup> ADB (2018). **Philippines: Country Partnership Strategy (2018-2023)**.

<sup>144</sup> ADB (2018). **Philippines: Country Partnership Strategy (2018-2023)**.

<sup>145</sup> **ADB (2019) COPB Philippines**



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One of the three strategic pillars of **Vietnam's** CPS (2016-2020) is “improving environmental sustainability and climate change response”<sup>146</sup>. This includes mitigation and adaptation as well as resource management. There is also a detailed section on how the ADB will support Vietnam achieve its NDC.

The table on the next page contains an assessment of the Country Partnership Strategies for the Philippines, Vietnam and Indonesia as regards energy efficiency, renewables and clean energy, sustainable transport and support for NDCs. It is important to note however that in the plans for Indonesia and Vietnam, natural gas was included within the definition of “clean energy”. This is potentially concerning as this would mean financing for projects that could cause a carbon lock-in over the long term.

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<sup>146</sup> ADB (2016) **ADB's Country Partnership Strategy (CPS) 2016–2020**

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*Table 3: Assessment of Country Partnership Strategies of Philippines, Vietnam and Indonesia*

CPS by Country	Energy efficiency	Renewables & Clean Energy	Sustainable Transport	NDCs
Philippines <sup>147</sup>	Not mentioned explicitly.	Encouragement of renewable energy mentioned under private sector operations and knowledge transfer.	Knowledge transfer for sustainable urban transport and reducing climate and disaster risk in transport systems.	Will support the Philippines achieve its NDC. This is vague, possibly due to ongoing review of NDC in the Philippines.
Vietnam <sup>148</sup>	Enhance energy efficiency in transmission and distribution.	Clean energy* is mentioned as one of the five areas of support to be provided.	Will use Clean Technology Fund to invest in mass transport. Will mainstream climate-proofing in infrastructure investments. Improve rural transport links.	Three strategic objectives or pillars are mentioned in the CPS. The third is "environmental sustainability and climate change". NDC support to be provided through technical support and capacity building of responsible agencies and direct investments.
Indonesia <sup>149</sup>	Energy conservation is mentioned briefly but not part of the results framework.	Commitment to enhance clean energy* share in energy mix, including encouraging public policies designed to increase private investments in this area. Brief mentions of renewables.	Urban transport in key municipalities linked to urban planning. Sustainability not mentioned.	NDC mentioned. Relatively vague on how will be supported. Environment, climate change and disaster response also listed as a separate area to be addressed.

**Sources:** ADBs Country Partnership Strategies.

\*Clean energy: refers to renewables and natural gas<sup>150</sup>

Key: Grey = Not Relevant; Red = Not mentioned; Orange = Limited coverage; Green: Good coverage

<sup>147</sup> ADB (2018). **Philippines: Country Partnership Strategy (2018-2023)**.

<sup>148</sup> ADB (2016) **Vietnam: Country Partnership Strategy (2016-2020)**

<sup>149</sup> ADB (2016). **Indonesia: Country Partnership Strategy (2016-2019)**

<sup>150</sup> Indonesia's CPS document states that "Support for energy will... help develop clean energy sources such as natural gas and geothermal". See: ADB (2016). **Indonesia: Country Partnership Strategy (2016-2019)**





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*Recommendations on country-level work:*

- > The Asian Development Bank should be more specific about how it is going to support countries in implementing and raising the ambition of **Nationally Determined Contributions** (NDCs) under the Paris Agreement.
- > The Asian Development Bank should **align with the Paris Agreement's global mitigation goals by** seeking to bring Country Partnership Strategies in line not just with NDCs but with a Paris-aligned pathway to well below 2°C and pursuing efforts toward 1.5°C. Long-term decarbonisation planning and the phase out of fossil fuels needs to become part of the Country Partnership Strategies<sup>1</sup>. This has already been done to some extent with Vietnam<sup>1</sup>. A similar goal should be incorporated in the Country Partnership Strategies for Indonesia and the Philippines.
- > The general Country Partnership Strategy guidelines<sup>1</sup>, which were last revised in 2015<sup>1</sup>, need to be updated to take into account the ADB's **Climate Change Operational Framework**<sup>1</sup> and Strategy 2030. At present the guidelines make only one minor reference to climate. This is part of ensuring that climate change is mainstreamed in every part of the bank's operations.
- > In its dealings with finance ministries in Vietnam and Indonesia, the ADB should encourage these ministries to join the **Coalition of Finance Ministers for Climate Action**, as the Philippines has already done. Equally, it should encourage central banks in the region to join the Network for Greening the Financial System<sup>1</sup>.
- > The development banks should support initiatives on sustainable finance in the region such as **Indonesia's Sustainable Finance Initiative and the Asia Sustainable Finance Initiative**. This should be used as an opportunity to integrate climate risks and opportunities into the sustainable finance agenda.

ADB has already published two reports on 2050 decarbonisation pathways for the Philippines<sup>151</sup> and Vietnam<sup>152</sup>, but it remains unclear how this research is going to inform the CPS and provide the necessary support to countries to follow a sustainable development pathway in the long term. Nevertheless, the recommendations of these reports on 2050 planning could inform the next round of CPSs and COBPs in those countries. Moreover, updates are needed to the ADB's CPS guidelines so that climate change is incorporated in all CPS, as stated in the Climate Change Operational Framework.

<sup>151</sup> ADB (2017). [Pathways to the Low Carbon development for Vietnam](#)

<sup>152</sup> ADB (2017). [Pathways to the Low Carbon development for Vietnam](#)



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### **Distance learning: Examples of transformational climate finance instruments from peers**

This section summarises several innovative and transformational examples of climate finance from around the world, which could be relevant for South East Asia. ‘Transformational’ climate finance has been defined in different ways. E3G’s conceptual framework for transformational climate finance<sup>153</sup> considers aspects such as scale, learning and replication, leverage and market creation. Examples of MDB programmes which E3G has identified as potentially transformational include:

- > incentives for financial institutions to lend to climate-related projects;
- > green fiscal reform;
- > use of innovative instruments to mobilise private climate finance;
- > use of new instruments to demonstrate or scale-up innovative technologies;<sup>154</sup>
- > technical assistance for implementing Paris Agreement goals.

The ADB’s NDC Advance platform mentioned above is an example of the latter – a technical assistance programme to implement the Paris Agreement.

The cases studies below represent MDB instruments or programmes we have identified as potentially transformational or innovative<sup>155</sup> and in each case we explore the potential for these to be applied in South East Asian countries.

The case studies were selected by using the conceptual framework developed by E3G. Each case study is an example of a transformational initiative that shows successful results by mobilising resources from the private and public sector. Some of these innovative projects could potentially be implemented or replicated in Vietnam, Philippines and Indonesia. Further examples have been included in Annex III. The case studies were selected by using the conceptual framework developed by E3G. Each case study is an example of a transformational initiative that shows successful results by mobilising resources from the private and public sector. Some of these innovative projects could potentially be implemented or replicated in Vietnam, Philippines and Indonesia. Further examples have been included in Annex III.

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<sup>153</sup> E3G (2014) **Designing smart green finance incentive schemes**

<sup>154</sup> E3G (2018) **Banking on Reform: Aligning Development Banks with Paris Climate Agreement** To note, we have defined ‘innovative’ to mean the use of an instrument in a new context rather than creation of new instruments.

<sup>155</sup> The database of potentially transformational examples was screened to include only examples for which there was available evidence of success, excluding those for which it is too early to tell. We excluded any examples which were deemed regionally or nationally-specific and therefore not relevant for ADB.



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**Case study: Sustainable Energy Financing Facility**

**Institution: European Bank for Reconstruction and Development (EBRD)**

**Structure:** Credit line facility

**Sector:** Energy efficiency and small-scale renewables

**Region:** Europe, North Africa and Central Asia

**Description:** The EBRD Sustainable Energy Financing Facility (SEFF) provides credit lines to local partner banks in the region to reduce investment barriers for sustainable energy finance, and energy efficiency and small-scale renewables in particular. The programme also includes training for the local banks in terms of the technical aspects of projects, the marketing of new energy-related financial products and support for the creation of environmental due diligence standards. The sectors that SEFF credit lines have helped include food processing, manufacturing, industry, construction and agribusiness.

**Outcomes:** Since 2006<sup>156</sup>, EBRD has allocated more than EUR 3 billion in sustainable energy financing to over 100 financial institutions<sup>157</sup>. Over 6 million tonnes of CO<sub>2</sub> has been saved<sup>158</sup>.

**Transformational aspect:** The SEFF offers both financial incentives and technical training to overcome barriers to investment in energy efficiency and small-scale renewables. Energy efficiency in particular has proved challenging to date.

**Relevance for South East Asia:**

Energy efficiency is a priority area in South East Asia due to high levels of energy intensity. The ADB and other MDBs could therefore copy the success of the EBRD-SEFF and use the same approach in its recipient countries, adapting the approach to the dominant sectors and industries in each case.

**Case Study: EcoMicro**

**Institutions: Inter-American Development Fund (IADB) and Nordic Development Fund**

**Structure:** Technical assistance programme

**Sector:** Microfinance

**Region:** Latin America and the Caribbean

**Description:** EcoMicro is a USD 7 million programme, co-financed by the Inter-American Development Bank's Multilateral Investment Fund (MIF) and the Nordic Development Fund. EcoMicro is training 12 microfinance institutions across the region to develop green microfinance products for climate change mitigation and adaptation. Many micro small or medium sized enterprises (MSMEs) such as smallholder farmers in Latin America and the Caribbean are not able to access finance for climate mitigation or adaptation projects that could also reduce operational costs and improve the competitiveness of their businesses<sup>159</sup>. The EcoMicro programme aims to fill this gap in the market by enabling microfinance institutions to assess climate-related opportunities. This program was selected as a winner of the UNFCCC Momentum for Change Lighthouse Activity Award 2014<sup>160</sup>.

**Outcomes:** Microfinance institutions in Mexico and Peru are expected to mobilise an additional USD 5.9 million in financing to provide clean energy and energy-efficient solutions for more than 5,000 MSMEs in economically deprived regions, enabling them to cut greenhouse gas emissions by up to 20%<sup>161</sup>. In Bolivia, Nicaragua and the Dominican Republic, more than 800 smallholder farmers are receiving technical assistance and finance as part of projects testing different models for adaptation financing<sup>162</sup>. In Bolivia, a USD 1 million concessional loan from the Climate Investment Funds will scale-up the EcoMicro programme and reach more than 1,000 smallholder farmers<sup>163</sup>.

<sup>156</sup> Sustainable Energy Financing Facilities

<sup>157</sup> See <http://seff.ebrd.com/about-seff.html>

<sup>158</sup> See <http://seff.ebrd.com/about-seff.html>

<sup>159</sup> See <http://www.ndf.fi/node/73>

<sup>160</sup> See <https://unfccc.int/climate-action/momentum-for-change/financing-for-climate-friendly/ecomicro>

<sup>161</sup> See <https://unfccc.int/climate-action/momentum-for-change/financing-for-climate-friendly/ecomicro>

<sup>162</sup> See <https://unfccc.int/climate-action/momentum-for-change/financing-for-climate-friendly/ecomicro>

<sup>163</sup> See <http://www.ecomicro.org/>



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**Transformational aspect:** The EcoMicro programme has filled a gap in the green microfinance market and allowed MSMEs in Latin America to make the most of win-win-win situations for climate action, financial inclusion and growth.

**Relevance for South East Asia:** The microfinance market in South East Asia is already relatively mature<sup>164</sup> - especially in the Philippines – but there is a lack of green microfinance products on offer. These institutions would therefore benefit from a programme similar to EcoMicro. This programme is similar to the ADB’s Access to Green Finance microfinance project in Tajikistan<sup>165</sup>.

#### *Recommendations on financial instruments:*

- > The ADB should increase its use of **guarantees** as these have greater potential to mobilise private finance. The bank could also provide support to local banks in developing re-financing mechanisms in local currencies so they can provide long-term climate-related finance.
- > The ADB should increase the support it gives to countries as regards climate risk management through innovative climate risk **insurance and microinsurance** schemes.
- > The ADB and other MDBs in the region should increase the use of **green or climate bonds** as a tool for unlocking more climate finance, something which the ADB, the IFC and others have already used in the region.

## Conclusion

This report shows that reforming and aligning the operations of a major multilateral development bank like the ADB to an agreement as ambitious as the Paris Agreement is a challenging task. It requires change and progress on many fronts, and often requires this change to happen more quickly than existing processes and review cycles allow. Looking in detail at three of the ADB’s recipient countries has shown how many projects, programmes and initiatives are already underway, some aligned with the Paris Agreement and others not. The research also showed how the technical and economic potential for sustainable development and zero-carbon energy is significant.

Given the speed at which change needs to occur the Asian Development Bank should consider setting up a regular review of its climate-relevant internal policies and how they could be updated to better deliver the goals of the Paris Agreement. Indeed, given the energy sector’s core role in the transition to a net zero economy, the bank should also consider whether from now on its energy policy should be reviewed every

<sup>164</sup> [https://www.dbs.com/iwov-resources/images/sustainability/img/Green\\_Finance\\_Opportunities\\_in\\_ASEAN.pdf](https://www.dbs.com/iwov-resources/images/sustainability/img/Green_Finance_Opportunities_in_ASEAN.pdf)

<sup>165</sup> <https://www.adb.org/projects/45229-001/main>



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five years at most (rather than the current 10 years) in order to keep up with the latest market and technology developments.

More research is needed on both the ADB and its peers to identify what changes need to be implemented in each case in order to transform these banks into climate champions. The ongoing work between the multilateral development banks to find a common definition and framework for the implementation of the Paris Agreement is much needed and should be accelerated. We hope this paper acts as an initial contribution to these processes both within and outside of the Asian Development Bank as it crafts a new role for itself in the climate space.

## Annexes

### Annex 1: Examples of transformational climate finance instruments and relevance for South East Asia<sup>166</sup>

Project Name	Brief Description	Does this instrument/initiative exist in South East Asia?
<b>Renewable energy and energy efficiency</b>		
<b>Regional Cooperation on Renewable Energy Integration into the Grid, Central Asia, Asian Development Bank</b>	This is a technical assistance facility run by the ADB to help integrate higher shares of renewables in the Central Asia region and overcome intermittency challenges by looking at how frequency control services and markets can be pooled and reformed.	There does not appear to be an equivalent initiative in South East Asia and this could be considered for at least the geographically contiguous countries of Myanmar, Thailand, Laos, Cambodia and Vietnam, and possibly beyond. Based on existing cross border electricity connectors in the region <sup>167</sup> such a scheme should be feasible.
<b>EDGE - Green Buildings Software – tool (Excellence in Design for Greater Efficiencies)<sup>168</sup>, financed by IFC</b>	The EDGE is an application which helps to determine the most cost-effective options for designing green buildings within a local climate context. It allows designers to estimate the efficiency of a building and determine the financial viability of a green building project at the early design stage.	The IFC EDGE software is available globally and has already been used in the design of 29 green buildings in Vietnam, Indonesia and the Philippines <sup>169</sup> but could be promoted by the ADB more widely in South East Asia. To move onto a greener development path, resource-efficient building practices must be introduced and implemented. Green construction offers a chance to secure emission cuts at a low cost and lock in energy and water savings for decades.
<b>Sustainable Energy Finance Facility (SEFF), financed by EBRD<sup>170</sup></b>	The SEFF facility partners with local financial institutions, such as banks, to establish sustainable energy financing channels in two key areas: energy efficiency and small-scale renewable energy.	The SEFF facility offers a different way to provide funding to national financial institutions. This program could be relevant for South East Asia region to mobilise green finance and to stimulate competitiveness, innovation and climate resilience in their portfolios.
<b>Green Mini-Grid (GMG) Market Development Programme, supported by the African Development Bank<sup>171</sup></b>	Supporting the scale-up of investments in commercially viable GMG projects through a broad range of interventions to improve the enabling environment.	Despite the fact other agencies such as the World Bank are implementing similar projects globally, the GMG Market Development Programme is an instrument that could be replicated by other MDBs in South East Asia, and potentially could be used more wisely to support mini-grids on the small islands of the Philippines and Indonesia. The ADB has supported mini-

<sup>166</sup> The database of potentially transformational examples was screened to include only examples for which there was available evidence of success, excluding those for which it is too early to tell. We excluded any examples which were deemed regionally or nationally-specific and therefore not relevant for ADB.

<sup>167</sup> Global Energy Network Institute

[https://www.geni.org/globalenergy/library/national\\_energy\\_grid/asean/aseanelectricitygrid.shtml](https://www.geni.org/globalenergy/library/national_energy_grid/asean/aseanelectricitygrid.shtml)

<sup>168</sup> See <https://www.edgebuildings.com/about/edge/>

<sup>169</sup> See <https://www.edgebuildings.com/projects/>

<sup>170</sup> See <http://seff.ebrd.com/about-seff.html>

<sup>171</sup> See <https://www.se4all-africa.org/seforall-in-africa/regional-initiatives/green-mini-grids/>



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		grids in Myanmar <sup>172</sup> , whilst USAID has supported mini-grids in Indonesia <sup>173</sup> .
<b>Energy Efficiency Green Bond Facility, financed by IADB<sup>174</sup></b>	Providing an alternative financing mechanism for energy efficiency projects through the issuance of green asset-backed securities. Uses the concept of aggregation to mobilise institutional funds at scale toward small and medium sized energy service companies (ESCOs).	South East Asia has implemented some initiatives of Green Bond Projects, however, at the time of this report, we did not identify a facility specifically addressing energy efficiency. This initiative could provide an alternative mechanism to incentivise energy efficiency projects in South East Asia. The ASEAN ESCO report states that Philippines has a more developed ESCO market than Indonesia or Vietnam <sup>175</sup> .
<b>Energy saving insurance (ESI)<sup>176</sup>, financed by IADB</b>	Providing an insurance product that covers projected energy savings for specifically defined and verifiable energy efficiency measures. First piloted in Colombia and now has projects in seven countries.	At the time of this report, we did not identify an initiative specifically addressing energy efficiency insurance products. This initiative could provide an alternative mechanism to incentivise energy efficiency projects to South East Asia. The Climate Policy Initiative presented a workshop about the ESI instrument in Indonesia <sup>177</sup> though it is unclear if there is information about its feasibility for Indonesia or South East Asia.
<b>Bangladesh Solar Home Systems<sup>178</sup>, financed by the World Bank and the Infrastructure Development Company Ltd (IDCOL) -</b>	The project was set up with selected local partner organisations (POs) which extend loans, install the solar home systems (SHS), and provide after-sales support, while IDCOL provides grants, soft loans and technical assistance.	South East Asia is region with a high demand for energy, and a Solar Home System project could be implemented in the region by offering financial options to local organisations to provide clean energy to isolated communities.
<b>KaXu Solar, supported by the IFC<sup>179</sup> in South Africa</b>	The first large-scale concentrated solar power (CSP) plant with storage developed by the private sector to begin operating in South Africa. CSP uses thermal storage for bulk energy storage, allowing electric utilities to integrate other variable renewable sources of electricity – solar photovoltaic or wind – into their energy mix more easily.	CSP has not yet been adopted widely in the region. In Thailand, Thai Solar Energy 1 (TSE1) was the first CSP plant in the South East Asia region, and was one of 15 such CSP plants <sup>180</sup> , which opened in 2011 <sup>181</sup> . This type of innovative project could be replicated in many places across South East Asia and help to mobilise resources from the private sector to invest in solar projects in the region. With its relatively inexpensive thermal storage, CSP can help countries deliver clean, dispatchable energy to those who need it most, while reducing reliance on fossil fuels for back up.
<b>Facility for Energy Inclusion, financed by AFDB<sup>182</sup></b>	The Facility for Energy Inclusion (FEI) is a pan-African renewable energy debt fund that provides senior and mezzanine debt financing, both in hard and local currency, to off-grid, mini-grid and	The geography of South East Asia, particularly for the nations made up of archipelagos, means that off-grid and mini-grid systems are often the most feasible and economically viable. But these small-scale projects frequently have difficulty

<sup>172</sup> See <https://www.adb.org/documents/developing-renewable-mini-grids-myanmar-guidebook>

<sup>173</sup> See <http://www.mca-indonesia.go.id/en/project/green-prosperity/grant/renewable-energy-grants-for-community>

<sup>174</sup> See <https://www.iadb.org/en/news/news-releases/2015-11-24/latin-america-boosts-energy-efficiency%2C11334.html>

<sup>175</sup> ACE (2017). ASEAN ESCO Report. ASEAN Centre for Energy (ACE).

<sup>176</sup> See <https://www.greenfinancelac.org/our-initiatives/esi/>

<sup>177</sup> See <https://climatepolicyinitiative.org/event/indonesia-energy-efficiency-conservation-conference-exhibition-iecec-2017/>

<sup>178</sup> See <https://www.centreforpublicimpact.org/case-study/solar-home-systems-bangladesh/>

<sup>179</sup> See <https://www.power-technology.com/projects/kaxu-solar-one-northern-cape/>

<sup>180</sup> See <http://helioscsp.com/thailand-opens-the-first-of-fifteen-concentrated-solar-thermal-power-plants>

<sup>181</sup> See [https://www.nrel.gov/csp/solarpaces/project\\_detail.cfm/projectID=207](https://www.nrel.gov/csp/solarpaces/project_detail.cfm/projectID=207)

<sup>182</sup> See <https://www.afdb.org/en/projects-and-operations/project-portfolio/p-z1-f00-063/>



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	small-scale Independent Power Producers (IPP) for projects under USD 30 million.	obtaining financing. A programme similar to the Facility for Energy Inclusion could potentially offer easier access to financing to small scale producers while helping provide electricity for underserved island and rural households.
<b>Egypt Energy Renewable Financing Framework financed by EBRD<sup>183</sup></b>	The Egypt Renewable Energy Financing Framework (EREFF) serves to encourage public and private climate financing for the deployment of sustainable, low-emission energy technologies in Egypt. In fact, the EREFF has already worked with the GCF and others to finance the Benban complex in Upper Egypt, which when finished will be one of the largest solar PV installations in Africa.	Large scale renewable energy projects in South East Asia would benefit from having both public and private financing in the manner used by the Egypt Renewable Energy Financing Framework. South East Asia has a rapidly growing demand for energy, so a similar framework in the region could offer green finance for large scale energy projects. There is also potential for the ADB to blend GCF resource with its own.
<b>Global Energy Efficiency and Renewable Energy (GEEREF), financed by EIB<sup>184</sup></b>	GEEREF, a Fund-of-Funds, invests in private equity funds that specialise in providing equity finance to small and medium-sized clean energy projects in developing countries. It invests in specialised private equity funds that in turn invest in a broad mix of SMEs. GEEREF aims to also achieve high leverage of public finance by offering preferential returns to private funds and obtain high degree of financial sustainability.	Private equity funds could function as an effective mechanism to obtain the funding needed to develop South East Asia's potential in renewable energy sources and strengthen private sector involvement in the power and energy sector. The GEEREF is a global program that is already funding three private equity funds in South East Asia at levels of between €10-12.5m each <sup>185</sup> , but this could potentially be scaled up to support private equity funds focused on clean energy financing in a greater manner across the countries of South East Asia.
<b>Climate and Clean Energy Finance Facility, financed by IADB<sup>186</sup></b>	Provides loans to distributed renewable energy projects selling power to private offtakers, a market currently underserved by financial institutions, and uses donor climate finance to offer technical assistance grants, for project identification, feasibility studies, engineering and capacity building. This reduces transaction costs for legal services and their technical review, reducing costs borne by the projects.	The IADB is implementing the Asian Clean Energy Fund (ACEF) <sup>187</sup> as part of the Clean Energy Financing Partnership Facility. However, a financial instrument such as the Climate and Clean Energy Finance Facility provides an option for South East Asian countries by offering loans and technical assistance for energy efficiency and self-supply renewable energy, as well as water and other adaptation investments.
<b>EcoMicro (IADB and the Nordic Development Fund)</b>	EcoMicro is a USD 7 million programme, co-financed by the Inter-American Development Bank's Multilateral Investment Fund (MIF) and the Nordic Development Fund. EcoMicro is training 12 microfinance institutions across the region to develop green microfinance	The microfinance market in South East Asia is already relatively mature - especially in the Philippines – but there is a lack of green microfinance products on offer. These institutions would therefore benefit from a programme similar to EcoMicro. This programme is similar to the ADB's Access to Green Finance microfinance project in Tajikistan.

<sup>183</sup> See <https://www.greenclimate.fund/-/gcf-ebd-egypt-renewable-energy-financing-framework>

<sup>184</sup> See <http://geeref.com/about/what-geeref-is.html>

<sup>185</sup> See <http://geeref.com/portfolio.html>

<sup>186</sup> <https://www.iadb.org/en/news/news-releases/2015-06-10/idb-expands-climate-and-clean-energy-facility%2C11174.html>

<sup>187</sup> <https://www.adb.org/site/funds/funds/acef>





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	products for climate change mitigation and adaptation.	
<b>World Bank Group Scaling Solar programme</b>	Provides support to country government and regulators in creating a tender for large-scale solar projects with financing from the IFC. Current programme active in Ethiopia, Madagascar, Senegal, Uzbekistan and Zambia. Includes technical advice, non-negotiable template contracts, financing, insurance, risk management instruments and credit enhancement schemes. Target is to commission large-scale solar farms within two years of beginning of programme.	It is unclear whether similar Scaling Solar programmes have been explored or considered in the South East Asia region. Could apply in particular to the Philippines which has a liberalised electricity market.
<b>Solar Energy Standardisation Initiative/Open Solar Contracts (IRENA and Terrawatt Initiative)</b>	IRENA and the Terrawatt Initiative have joined forces to create a suite of standardised template contracts applicable anywhere in the world for every stage of the solar PV project development process e.g. construction, power purchase agreement, operations and maintenance etc.	Tailored template contracts for the South East Asia region, translated into the key regional languages, could help make solar PV project development easier in the region. Similar initiatives could also be considered by the ADB for other renewable and energy efficiency technologies and business models.
<b>Power Purchase Guarantee Scheme (Norwegian Guarantee Institute for Export Credits – GIEK)</b>	The GIEK Power Purchase Guarantee scheme in Norway offers renewable suppliers a 'guarantee' or insurance so that if a corporate energy buyer fails to meet the terms of the contract (e.g. fails to pay), the supplier can make a claim against GIEK. The price of this insurance, or premium, is fixed for the full duration of the PPA contract. At the moment this guarantee is only offered for buyers within the wood, timber, wood materials, chemicals and metals industries in Norway.	MDBs around the world could create similar insurance schemes to encourage corporate energy users to enter into renewable corporate Power Purchase Agreements. This is potentially a low cost way of deploying renewables at scale. Some MDBs are considering introducing similar instruments.
<b>Climate Resilience</b>		
<b>ProAdapt<sup>188</sup>, financed by IADB and the Nordic Development Fund</b>	ProAdapt works with microfinance institutions (MFIs) to help them incorporate climate risk management into their portfolios and provide green finance to Micro, Small and Medium Enterprises (MSMEs), create greater knowledge of climate resilience among MSMEs and help MSMEs in identifying and accessing business opportunities that stimulate green growth.	ProAdapt is a project that could be replicable in other developing countries in South East Asia. This approach is an opportunity to provide access to MFIs to climate resources and support the development of new and innovative methodologies, tools, and business models to help micro, small and medium-sized enterprises. Proadapt can also be an important source to fill knowledge and information gaps on climate resilience for MSMEs by offering support for the private sector in climate change adaptation. Enterprises with the right business models and know-how will tap a growing number of market opportunities as climate threats evolve.

<sup>188</sup> <https://www.proadapt.org/en-us/Home/About.aspx>



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<p><b>Mexico MultiCat Bonds, issued by the government of Mexico<sup>189</sup></b></p>	<p>Mexico's MultiCat catastrophe ("cat") bond program was the first in the world. Created in 2009, it helped Mexico transfer catastrophe risk to the capital markets. The program combines risk mitigation, risk modelling as well as traditional and parametric insurance to allow the government to be financially prepared for multiple types of disasters across the country and put a price tag on the nation's risks.</p>	<p>Several nations in South East Asia are highly vulnerable to multiple types of natural disasters, with increased vulnerability due to climate change, yet none in the region has yet implemented a MultiCat program. These countries could increase access to funds for disaster recovery by pooling multiple risks in multiple regions by issuing a multi-risk "cat" bond using the World Bank's MultiCat Program, which helps sovereign and sub-sovereign entities pool multiple risks in regions and reduce insurance costs.</p>
<p><b>NDC Invest, financed by IADB<sup>190</sup></b></p>	<p>NDC Invest is the IADB's collective effort to assist countries to translate Nationally Determined Contributions (NDCs) into investment plans and bankable projects.</p>	<p>Philippines, Vietnam and Indonesia need support to transform their national commitments into investment plans. The NDC programme by the ADB due to be launched soon, could potentially include services similar to that of NDC Invest. This approach could be replicated by other MDBs and help them to transform their national commitments into achievable investments plans.</p>
<p><b>Deep Decarbonisation Pathways for LAC Project (DDPP-LAC), financed by IADB<sup>191</sup></b></p>	<p>The aim is to improve the capacity of the Latin America and Caribbean region to rely on independent, domestic evaluations to assess their NDCs, emission reduction plans and climate policies.</p>	<p>The Deep Decarbonisation Pathway (DDPP) approach promotes the creation of an ecosystem of modellers. Currently, the DDPP global initiative is being implemented only in Indonesia.<sup>192</sup> ADB has done studies on decarbonisation in Vietnam<sup>193</sup> and Philippines<sup>194</sup> but it is not yet clear how these studies are being integrated in country work.</p>
<p><b>Climate Action Framework Loan II to Caribbean Development Bank (CDB), supported by EIB<sup>195</sup></b></p>	<p>In 2017, the EIB provided a loan to the Caribbean Development Bank of USD120m with the aim of financing projects to support the Caribbean Development Bank to mainstream climate action and provide the necessary low-cost funding to Caribbean countries to address climate change adaptation, mitigation and resilience projects.</p>	<p>It is not clear to what extent such MDB lending to national and regional banks has taken place in the region. In Indonesia, the World Bank and Asian Infrastructure Investment Bank are supporting the Regional Infrastructure Development Fund<sup>196</sup>, which is located within PT Sarana Multi Infrastruktur (PT.SMI), Indonesia's state owned infrastructure project financing entity, but it is not yet clear to what extent this is supporting green projects or efficient infrastructure.</p>
<p><b>Caribbean Catastrophe Risk Insurance Facility (CCRIF)<sup>197</sup></b></p>	<p>It was the first multi-country risk pool in the world and the first insurance instrument to successfully develop parametric policies backed by both traditional and capital markets.</p>	<p>This type of insurance facility could be relevant for Vietnam, the Philippines and Indonesia to help them to respond to losses from cyclones or other extreme climate events. In the Philippines, the World Bank has launched a catastrophe risk insurance</p>

<sup>189</sup> [http://siteresources.worldbank.org/EXTDISASTER/Resources/MexicoMultiCat\\_Final.pdf](http://siteresources.worldbank.org/EXTDISASTER/Resources/MexicoMultiCat_Final.pdf)

<sup>190</sup> <https://www.ndcinvest.org/>

<sup>191</sup> IADB (2017) Deep decarbonization pathways in Latin America and the Caribbean

<sup>192</sup> <http://deepdecarbonization.org/about/>

<sup>193</sup> <https://www.adb.org/publications/pathways-low-carbon-development-viet-nam>

<sup>194</sup> ADB (2017). Pathways to Low-Carbon Development for the Philippines

<sup>195</sup> See <http://www.eib.org/en/infocentre/press/releases/all/2017/2017-315-eib-and-cdb-commit-usd-24-million-to-post-disaster-reconstruction-in-the-caribbean>

<sup>196</sup> World Bank (2017). Indonesia - Regional Infrastructure Development Fund Project

<sup>197</sup> See <https://www.ccrif.org/>



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		program <sup>198</sup> , but no such scheme exists in Vietnam or Indonesia. An ASEAN+3 working group, supported by the World Bank, is working on "SEADRIF", a proposed regional catastrophe risk pool so far involving Myanmar, Laos and Cambodia <sup>199</sup> . This kind of risk pool could be relevant for other countries, including Indonesia, based on their specific needs as neighbouring highly vulnerable archipelago nations and based on the potential for partnering in a multi-country risk pool.
<b>Qairokkum hydropower: Planning for a changing climate, financed by EBRD and the Climate Investment Fund<sup>200</sup> in Tajikistan</b>	The Qairokkum project used a highly innovative approach by incorporating climate change considerations into the investment design.	There are many hydropower projects in South East Asia and the lessons from incorporation of climate change scenarios into project design could be relevant for the region.
<b>Agriculture and Ecosystems</b>		
<b>West Africa Coastal Areas (WACA) Management Program supported by the World Bank<sup>201</sup></b>	WACA Program provides technical assistance and investment finance to help countries to access expertise and finance to sustainably manage their coastal areas.	This programme is applicable in other countries in South East Asia; it provides solutions and finance to help protect the social and economic assets of coastal areas.
<b>Tropical Landscape Finance Facility (TLFF) supported by UNEP<sup>202</sup></b>	The facility leverages public funding to unlock private finance for sustainable land use, including in agriculture and ecosystem restoration, and for investments in renewable energy. This facility consists of a lending platform and grant fund.	This programme is relevant to South East Asia. Currently, it is only being implemented in Indonesia and it could support other areas in the region. The TLFF presents a lending platform that offers investment opportunities in the renewable energy and sustainable agriculture sector in Indonesia, all of which are applicable across the region.
<b>Africa Agriculture Trade Investment Fund (AATIF) supported by KfW and BMZ<sup>203</sup></b>	The Fund aims at improving food security and providing additional employment and income to farmers, entrepreneurs and labourers alike by investing patiently and responsibly in efficient local value chains.	The agriculture sector in South East Asia requires support to improve the value chain by incentivising private and public investment in the sector. Food security is an important issue for the countries in South East Asia with high vulnerability to the impacts of climate change.

The case studies were selected by using the conceptual framework developed by E3G. Each case study is an example of a transformational initiative that shows successful results by

<sup>198</sup> See <http://www.worldbank.org/en/news/press-release/2017/08/15/philippines-launches-innovative-insurance-program-to-boost-natural-disaster-risk-management>

<sup>199</sup> See <http://www.worldbank.org/en/events/2017/05/05/South-East-asian-countries-reach-milestone-agreement>

<sup>200</sup> Sustainable Energy Initiative (2015). Case Study Qairokkum Hydropower: Planning ahead for a changing climate

<sup>201</sup> See <http://www.worldbank.org/en/programs/west-africa-coastal-areas-management-program>

<sup>202</sup> See <http://www.worldbank.org/en/programs/west-africa-coastal-areas-management-program>

<sup>203</sup> The Taskforce (2018). *Better Finance, Better World*



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mobilising resources from the private and public sector. Those projects could potentially be implemented or replicated in the Vietnam, Philippines or Indonesia.

## **Annex 2: Defining alignment with the Paris Agreement**

There are six building blocks in the joint declaration on MDBs' alignment approach to the objectives of the Paris Agreement, announced at COP24 in 2018:

1. *Alignment with mitigation goals*
2. *Adaptation and climate-resilient operations*
3. *Accelerated contribution to the transition through climate finance*
4. *Engagement and policy development support*
5. *Reporting*
6. *Align internal activities.*

The MDB joint statement recalls the Paris Agreement goal “of holding the increase in global average temperature to well below 2°C above pre-industrial levels and pursuing efforts towards limiting it to 1.5°C.” In addition, the statement observes that “the recent Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C highlights the grave consequences that temperature rise above 1.5°C would entail, and clarifies that indeed all efforts should be made to avoid such a scenario”.

Under the mitigation building block, the MDB joint statement commits for operations to become not only “consistent with the different countries’ low-emissions development pathways”, but also, crucially, “**compatible with the overall climate change mitigation objectives** of the Paris Agreement.” This implies a considered approach which goes beyond current NDCs. This building block also commits to “assess our operations against transition risks and opportunities related to climate change”, which is particularly pertinent in the context of the market risks and potential regulatory risks facing ADB fossil-related investments.

Also, under the building block titled “Accelerated contribution to the transition through climate finance”, the MDBs commit “to **actively support** low-emissions and climate-resilient development pathways through our interventions” and “further scale-up the provision of climate finance”. The MDBs commit to “do this **in support of ambitions agreed to** under the United Nations Framework Convention on Climate Change (UNFCCC) and **in line with science-based evidence** identified by the IPCC.”

In terms of “Engagement and policy development support”, the MDBs commit to “build on existing efforts to support the NDCs’ **revision cycle** and develop services for countries and other clients to put in place **long-term strategies** and **accelerate the transition** to low-emissions and climate-resilient development pathways.” They also



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commit to establishing “collaborative partnerships with other institutions while scaling-up outreach and knowledge-sharing initiatives”.

Separately, the International Development Finance Club, which consists of national development banks, has created its own framework<sup>204</sup> which consists of increasing finance for climate action, supporting country-led climate policies, mobilizing private capital, supporting adaptation, supporting the transition from fossil fuels to renewables and changes to internal processes.

Previous E3G work<sup>205</sup> on operationalising alignment with the Paris Agreement included many of the same elements as listed above, spread across the four areas of governance, strategy, operational management and transformational initiatives. Specific indicators within these areas include greenhouse gas accounting at portfolio and project level, internal carbon pricing, policies to restrict finance to fossil fuels and integration of climate change into country partnership work, among many others.

## Glossary and abbreviations

ADB – Asian Development Bank

ASEAN – Association of South East Asian Nations

CPS – Country Partnership Strategies

IPCC – Intergovernmental Panel on Climate Change

MDBs – Multilateral Development Banks

NDCs – Nationally Determined Contributions

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<sup>204</sup> IDFC (2018) **IDFC Position paper: aligning with the Paris Agreement**

<sup>205</sup> E3G (2018) **Banking on Reform**



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### About E3G

E3G is an independent climate change think tank operating to accelerate the global transition to a low carbon economy. E3G builds cross-sectoral coalitions to achieve carefully defined outcomes, chosen for their capacity to leverage change. E3G works closely with like-minded partners in government, politics, business, civil society, science, the media, public interest foundations and elsewhere. In 2018, E3G was ranked the 5th top environmental policy think tank for the second year running in the Global Go To Think Tank Index.

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